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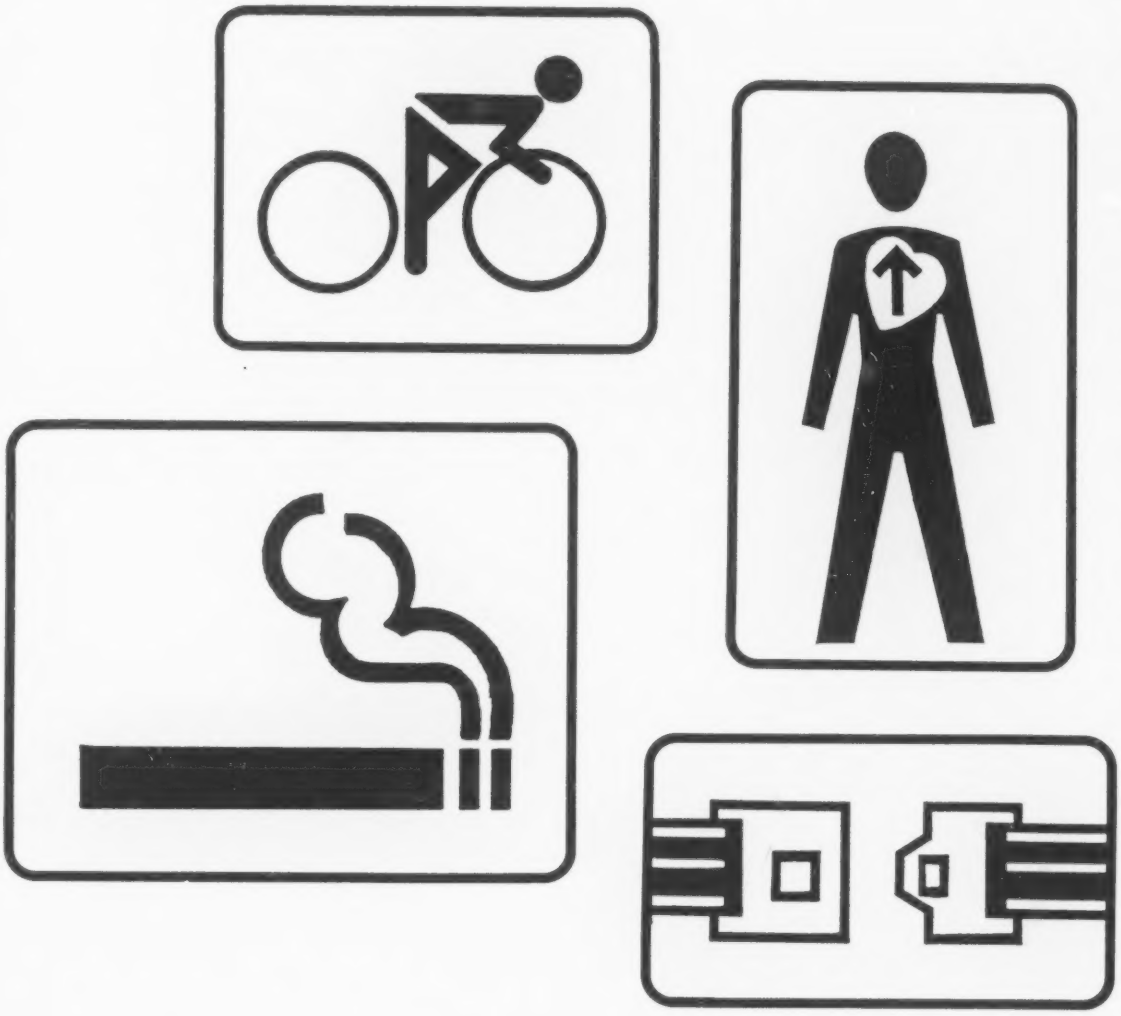
South Carolina
Behavioral Risk Factor Survey

1985-1989



Center for Health Promotion
South Carolina Department of Health and Environmental Control

SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY

1985 - 1989

CENTER FOR HEALTH PROMOTION
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

APRIL 1991

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EXECUTIVE SUMMARY

In 1984, South Carolina began participating in the Behavioral Risk Factor Surveillance System coordinated by the U.S. Centers for Disease Control. Since then, the personal health habits of the adult population of South Carolina have been monitored annually through an ongoing telephone survey. This report describes the methodology and limitations of the survey, and summarizes the results of the South Carolina Behavioral Risk Factor Surveys (BRFS) conducted from 1985 to 1989.

Focusing on health behaviors that can place individuals at increased risk for preventable illnesses and death, the analysis section presents prevalence data on eight primary risk factors: current smoking, seat belt non-use, current hypertension, sedentary life-style, chronic drinking, overweight, lack of cholesterol screening, and high blood cholesterol. The following are highlights of the major findings.

Current Smoking - The prevalence of current smoking, as measured through the South Carolina BRFS, declined from 29.3% in 1985 to 24.3% in 1989. The greatest decline over the five-year period occurred among blacks, particularly black males. Since 1987, a greater percentage of white males have reported smoking than any other race-sex group. Smoking prevalence declined among persons under 55 years old, but increased among those 55 years of age or older.

Seat Belt Non-Use - Seat belt non-use declined from 66.0% in 1985 to 38.8% in 1989. More black females (70.8%) reported non-use of seat belts in 1985 than other race-sex groups; by 1989, however, this percentage had dropped to 39.2%. The largest change was among white females, whose prevalence decreased 33.1% over the five-year period. All age groups had a lower seat belt non-use prevalence in 1989 than in 1985. The biggest changes were among the young (18-24 years old) and the elderly (≥65 years old).

Current Hypertension - Persons aware that they had hypertension accounted for approximately 18%-20% of the adult population surveyed from 1985 to 1989. Black females consistently had the highest prevalence of the race-sex groups, and 1989 prevalences were higher than in 1985 for all race-sex groups except white females. With one minor exception, hypertension prevalence increased with age every year of the survey.

Sedentary Life-Style - The proportion of South Carolina adults reporting a sedentary life-style increased from 64.4% in 1985 to 68.4% in 1989. Blacks are somewhat more likely to lead an inactive life-style than whites. The highest prevalence in 1989 was reported by black males (75.3%). White females were slightly more inactive than white males, but considerably more active than black females. Sedentary life-style increased in 1989 over 1985 for all age groups except 55-64-year-olds. The largest increase occurred among 25-34-year-olds, whose prevalence increased almost 11%.

Chronic Drinking - The overall prevalence of chronic drinking fell from 5.3% to 2.2% between 1985 and 1989. Further analysis of chronic drinking by race-sex groups or age groups results in numbers too small for trend data to be considered statistically reliable.

Overweight - From 1987 to 1989, using Body Mass Index to determine weight status, the proportion of overweight persons was consistently around 20% of the adult population. Black females had the greatest likelihood of being overweight. Although white females were the least likely to be overweight, they were the only race-sex group whose 1989 prevalence (16.3%) was higher than it had been in 1987. The two youngest age groups had the lowest percentages of overweight persons, and their prevalences declined steadily over the three-year period. One age group, 55-64-year-olds, experienced increases of about 2% a year from 1987 to 1989.

Lack of Cholesterol Screening - Questions concerning cholesterol were added to the South Carolina BRFS in 1987. Although more respondents reported having had a cholesterol screening in 1989 than in 1987, nearly half (46.9%) of the 1989 respondents had not. Sixty percent of black males and 50% of black females had never had their cholesterol checked as of 1989. Lack of cholesterol screening generally decreased with age up to age 64, prevalences ranging from 70% among 18-24-year-olds to 30% among the elderly (≥65 years old). Over the three-year period, persons 55-64 years old were consistently the most likely to report having had their cholesterol checked.

High Blood Cholesterol - The prevalence of high blood cholesterol levels among adults who had had a cholesterol screening increased from 14% in 1987 to almost 23% in 1989. Within race-sex groups, data on high cholesterol varied and fluctuated considerably over the three-year period. Generally, however, the 1989 prevalences were higher for all groups except black males. High blood cholesterol generally increased with age. Individuals 55-64 years old had the highest prevalence of high blood cholesterol, while 18-24-year-olds had the lowest prevalence.

Table 1 summarizes the results of the 1985-1989 South Carolina Behavioral Risk Factor Surveys, presenting the overall prevalences (percentages) of the population at increased risk for preventable illnesses and death for each of these primary health risk factors.

Table 1

PRIMARY RISK FACTOR PREVALENCES
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1985 - 1989

RISK FACTOR	1985	1986	1987	1988	1989
Current Smoking	29.3	26.5	25.3	25.7	24.3
Seat Belt Non-Use	66.0	52.5	52.7	49.0	38.8
Current Hypertension	18.6	19.1	20.7	18.7	19.1
Sedentary Life-Style	64.4	46.0	60.7	65.4	68.4
Chronic Drinking	5.3	4.1	5.6	4.3	2.2
Overweight	NA	NA	20.8	21.7	20.7
Lack of Cholesterol Screening	NA	NA	53.4	55.6	46.9
High Blood Cholesterol	NA	NA	14.0	20.4	22.8

SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY

1985 - 1989

INTRODUCTION

Over the past 50 years, the leading causes of illness and death in South Carolina have changed from infectious diseases to chronic diseases. As shown in Table 2, in 1989, the ten leading causes of death accounted for over 80% of all deaths in the state.

Table 2
LEADING CAUSES OF DEATH IN SOUTH CAROLINA
1989

DISEASE OR CONDITION	NUMBER	PERCENT OF TOTAL
1. Heart Disease	9,552	32.3
2. Cancer	6,486	21.9
3. Stroke	2,459	8.3
4. Accidents	1,843	6.2
5. Chronic Obstructive Pulmonary Disease and Allied Conditions	1,021	3.5
6. Pneumonia/Influenza	735	2.5
7. Diabetes	670	2.3
8. Infectious & Parasitic Diseases	628	2.1
9. Suicide	420	1.4
10. Other Diseases of the Circulatory System	397	1.3
TEN LEADING CAUSES SUBTOTAL	24,211	81.8
ALL OTHER CAUSES SUBTOTAL	5,369	18.2
ALL CAUSES TOTAL	29,580	100.0

These major causes of death are closely associated with risk factors such as cigarette smoking, seat belt non-use, hypertension, sedentary life-style, chronic drinking, overweight, and high blood cholesterol. The key to improvement in the health status and longevity of the population is the modification

of these risk factors. In order to plan, implement and evaluate programs for health improvement, the patterns and trends of these behaviors must be monitored.

In 1984, South Carolina began participating in the Behavioral Risk Factor Surveillance System coordinated by the U.S. Centers for Disease Control (CDC). The purpose of the surveillance is to determine the prevalence of major behavioral risk factors among adults (18 years of age and older) by monitoring their personal health habits through an ongoing telephone survey. Data collected from the survey provide a basis and direction for health promotion efforts designed to prevent disease and encourage positive health habits. As of 1989, 39 states and the District of Columbia were participating in the Behavioral Risk Factor Surveillance System.

This report presents information on eight primary risk factors among adult South Carolinians: smoking, seat belt non-use, hypertension, sedentary life-style, drinking, overweight, lack of cholesterol screening, and high blood cholesterol. Following a brief discussion of the survey methodology and limitations, 1989 prevalences (percentages) and 1985-1989 trend data are examined for each of the risk factors.

METHODOLOGY

In order to make comparisons among states participating in the surveillance system, a standardized core questionnaire and interview protocol are used. The questions are developed by CDC, with input from the participating states. The core questions have been selected from national surveys, such as the National Health and Nutrition Examination Survey and the National Health Interview Survey. States with interests in subject areas not covered by the core questionnaire may add questions to the survey.

The standardized survey instrument is used to assess the prevalence of personal health practices and behaviors related to the leading causes of death. The survey poses questions concerning seat belt non-use, hypertension, overweight, sedentary life-style, smoking, drinking and the use of preventive services such as Pap smears, mammograms, and cholesterol screening.

Sample Selection

The sample for the survey is selected by means of a multi-stage cluster design based on the Waksberg Sampling Method* for random digit dialing. This methodology incorporates telephone numbers, listed and unlisted, and, basically, makes all adults with a residential telephone eligible participants. (As of December 1989, aproximately 92% of South Carolina residences had at least one telephone). The first two stages of the three-stage cluster design involve random selection of the telephone numbers. The third stage involves

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*Waksberg, J.S.: Methods for random digit dialing. J Am Stat Assoc 73:40-46 (1978).

random selection of an adult within the household.

The total sample is proportionally distributed among the three-digit exchange codes in the state. Then, within each three-digit exchange, an appropriate set of usable telephone numbers is randomly selected and the sample numbers are obtained by adding a random value. When a number does not result in a completed call, another number is randomly selected by the computer.

Respondent Selection and Interviews

Standard procedures are used to identify an adult to be interviewed from the adults living in the selected household. Eligible respondents are defined as persons 18 years of age or older. Within each household, the respondent is randomly selected to avoid bias due to the tendency of persons in certain age or sex groups to answer the telephone more frequently. If the selected respondent is not available at the time of the call, an appointment is made to complete the interview with the selected respondent at a later time.

Calls to the selected phone number are made according to a standard procedure with regard to time of day and number of callbacks. Interviews are conducted over a one- to two-week period each month throughout the year. The schedule for interviewing and the period of interview is standard, according to protocol established by CDC. The standard interview period allows for comparison with other states that conduct the survey and reduces the possibility of bias due to seasonal variation in certain life-styles.

In South Carolina, Behavioral Risk Factor Survey (BRFS) telephone callsare made and interviews are conducted by interviewers of the South Carolina Department of Health and Environmental Control. Calls are made primarily during weekday evening hours between 5:00 P.M. and 9:30 P.M., but are also made during earlier hours and on weekends. Five interviewers and one supervisor conduct the interviews.

The South Carolina BRFS uses computer-assisted telephone interviewing (CATI). CATI permits direct entry of the data into a computer file, which facilitates data coding and entry, interviewer monitoring, and quality control procedures. As the surveillance staff carry out data collection, the staff supervisor performs initial edits on all questionnaires on a daily basis during the interview period. At the conclusion of the interviewing cycle each month, the supervisor compiles the edited data on diskettes, which are forwarded to CDC for further editing, compilation, and weighting of the final data set.

Weighting factors are computed by CDC to compensate for sampling bias and provide more representative population-based estimates of risk factor prevalence. Adjustments are also made to approximate estimates of age, race, and sex. The CDC adjustments also attempt to correct for telephone non-coverage, non-response, and refusals.

Response Rates

During 1989, 4,647 telephone calls were made for the South Carolina Behavioral Risk Factor Survey. These calls resulted in 1,869 completed inter-

views. The disposition of telephone calls made for the 1989 BRFS are presented in Table 3:

Table 3

DISPOSITION OF TELEPHONE CALLS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1989

DISPOSITION	NUMBER	PERCENT
1. Completed Interviews	1,869	40.2
2. Refusals	106	2.3
3. Non-working number	1,724	37.1
4. No Answer (Multiple tries)	146	3.2
5. Business Phone	676	14.5
6. No Eligible Respondent	7	0.2
7. Selected Respondent Unavailable	99	2.1
8. Language Barrier	4	0.1
9. Terminated within Questionnaire	0	0.0
10. Busy Signal (Multiple tries)	0	0.0
11. Mental/Physical Impairment	16	0.3
TOTAL	4,647	100.0

Two response rates were derived, according to two different methods of calculation. The Upper Bound response rate (cooperation rate), which represents the ratio of completed interviews to the total number of eligible respondents contacted (the sum of completed interviews, refusals, and terminations), was 94.6%. The CASRO (Council of American Survey Research Organizations) response rate is the proportion of the telephone numbers called that resulted in completed interviews (the ratio of completed interviews to the sum of completed interviews, refusals, and a standard fraction of numbers which were working but for which an interview was not completed). The CASRO response rate for the 1989 Behavioral Risk Factor Survey was 87.3%.

Accuracy of Data

The 1989 South Carolina BRFS was designed to produce prevalence data accurate at approximately ±1.8% of the true mean values at the 95% confidence level. This means that the overall prevalences (percentages) obtained from the survey are within plus or minus 1.8% of the responses expected of the total South Carolina adult population.

Characteristics of the Sample Population

Even with careful, random sample selection, a sample survey frequently will not be truly representative of the population. Therefore, the weighting factors applied to the survey data by CDC account for the age, race, and sex distribution of adults in the state, as well as for the respondent's probability of selection, and more accurately estimate the actual prevalence of behavioral risk factors in the adult population.

All BRFS respondents were asked demographic information, including age, sex, and race. Eighteen records were deleted from the final data file of the 1989 survey because of missing age or race values. Therefore, while 1,869 interviews were completed, the demographic data in Table 4 are based on a sample size of 1,851 South Carolinians 18 years of age or older. The unweighted data indicate that, compared to 1988 State population projections, the survey underrepresented males, blacks, and younger persons, while overrepresenting females, whites, and, particularly, the elderly.

Table 4

CHARACTERISTICS OF THE SAMPLE POPULATION
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1989

CHARACTERISTIC	UNWEIGHTED DATA		WEIGHTED DATA
	NUMBER	PERCENT	PERCENT*
TOTAL	1,851	100.0	100.0
SEX			
Male	783	42.3	47.9
Female	1,068	57.7	52.1
AGE			
18-24	199	10.8	16.9
25-34	436	23.6	24.6
35-44	370	0	19.2
45-54	278	15.0	13.0
55-64	234	12.6	11.6
≥65	334	18.0	14.7
RACE			
White	1,368	3.9	68.6
Black	419	22.6	34.4
Other	64	3.5	NA

*Survey data weighted to 1988 State population projections produced by the South Carolina State Data Center. Projections based on White and Nonwhite races only; therefore, Other races are included in the Black percentage.

LIMITATIONS

While response rates for the South Carolina Behavioral Risk Factor Survey have been high over the six years that the survey has been conducted, the telephone survey methodology itself and the self-reported nature of the data collected result in some limitations that require caution in interpretation of the findings. First, telephone surveys may lead to biased population estimates because of over- or under-representation of certain groups. This bias may result from difficulty in contacting these persons, from higher refusal rates, or from lower rates of telephone coverage. The weighting of the data to account for the age, race, and sex distribution of the population is done to at least partially correct for this potential bias.

The validity of survey results is also dependent upon the accuracy of the responses given by the persons interviewed. The accuracy of responses is affected by the respondents' ability to accurately recall past behavior and willingness to respond honestly. Individuals may not accurately recall blood pressure and cholesterol levels. Survey respondents may understate behaviors that are generally considered unhealthy, socially unacceptable, or illegal. People may report a healthier lifestyle than they actually practice, and the accuracy of their responses may vary from one risk factor to another. The amount and direction of these potential biases vary depending on the specific risk factor.

Comparing the prevalence of risk factors over time and with other states also requires caution. While prevalences for the overall sample survey population are generally accurate, the degree of accuracy diminishes as the data are separated into detailed demographic components. For example, percentages

for black males 18-24 years old will not be as accurate as those for black males, for all blacks, or for the total sample. Such detailed data have large sampling errors and, therefore, should be used with extreme caution when making comparisons or interpreting trends. Caution also should be exercised when making inferences from data based on denominators less than 100. Data based on denominators less than 50 are considered statistically unreliable.

When comparing prevalence data from one jurisdiction to another, it is also important that the means of defining and measuring risk factors are the same. For example, obesity can be defined based on ideal body weight or on a body mass index. High blood pressure and high cholesterol can be defined in different ways, and risk factor prevalences will differ depending on the definition used. Prevalences will also differ from data based on actual clinical measurements.

RISK FACTOR ANALYSIS

The following analysis is based on data gathered from 1985 to 1989 on eight primary risk factors covered in the set of core questions in the South Carolina Behavioral Risk Factor Survey: Current Smoking, Seat Belt Non-Use, Current Hypertension, Sedentary Life-Style, Chronic Drinking, Overweight, Lack of Cholesterol Screening, and High Blood Cholesterol. Prevalences (percentages) of the "at risk" population for each of these risk factors are presented. Data are presented for the total population and for race-sex groups and age groups.

It should be stressed that the prevalence data reported for race-sex groups and age groups reflect the percentages of total persons within the group--not in the total survey sample--participating in a specific health behavior. This method of reporting prevalence facilitates identification of "at risk" populations for health promotion efforts.

The racial categories used in CDC-prepared data analyses were White, Black, and Other. Persons who reported that they were Hispanic were included in the Other race category. Because the number of respondents in this category was very small, no reliable "at risk" data could be obtained from the survey. Therefore, since races other than white and black represent a very small portion of South Carolina's total population, this race category was excluded from analysis. Eliminating other races from the analysis reduced the sample on which the analysis is based from 1,851 to 1,772.

Definitions of the population "at risk" are given for each of the risk factors, followed by brief summaries of the 1989 survey results and 1985-1989 trends. Charts depicting BRFS data graphically are presented in Appendix A, and survey questions and responses that were considered in the determination of the "at risk" population are included in Appendix B.

Current Smoking

Survey respondents were considered "at risk" if they reported that they have smoked at least 100 cigarettes in their life and they currently smoke. Table 5 presents the prevalence of current smoking among the adult population of South Carolina within race-sex groups and age groups for 1985 to 1989.

Table 5

PREVALENCE OF CURRENT SMOKING WITHIN RACE-SEX GROUPS AND AGE GROUPS SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY 1985 - 1989

CHARACTERISTIC	PERCENT AT RISK				
	1985	1986	1987	1988	1989
TOTAL	29.3	26.5	25.3	25.7	24.3
RACE-SEX GROUP					
White Male	33.5	27.6	31.6	30.9	31.4
White Female	24.8	26.8	22.6	22.6	22.2
Black Male	40.3	32.9	27.7	28.0	23.3
Black Female	22.3	17.6	12.8	19.3	13.9
AGE GROUP					
18-24	30.5	23.4	14.4	24.0	24.4
25-34	33.4	31.3	31.1	32.6	27.9
35-44	35.4	31.7	32.5	31.7	25.8
45-54	36.4	28.3	33.0	23.8	30.4
55-64	22.6	22.2	20.2	24.4	23.8
≥65	10.7	17.6	15.5	11.1	11.0

1989 Survey Results - The 1989 prevalence of current smoking among South Carolina adults was 24.3%. As illustrated in Appendix A, Figure 9, the highest prevalence was reported by white males (31.4%), followed by black males (23.3%). Black females reported smoking the least. Among age groups, persons 45-54 years old reported the highest prevalence of smoking (30.4%), followed by those 25-34 years old (27.9%), while the prevalence of smoking was lowest (11.0%) among the elderly (≥65 years old). Smoking prevalence among the remaining age groups ranged from 23.8% for individuals 55-64 years old to 25.8% for persons 35-44 years old (see Appendix A, Figure 10).

1985-1989 Trends - As shown in Table 5, overall smoking prevalence declined by 5%, from 29.3% in 1985 to 24.3% in 1989. The greatest decline in smoking over the five-year period occurred among blacks, particularly black males, whose smoking prevalence dropped 17%. While smoking also declined among whites, the decline was less than 3% for both males and females. A greater percentage of black males smoked in 1985 and 1986 than any other race-sex group. For the last three years of this analysis, however, the race-sex group with the highest percentage of smokers was white males (see Appendix A, Figure 11).

Smoking prevalence also declined among most age groups between 1985 and 1989 (see Appendix A, Figure 12). Survey respondents in age groups under 55 years old had lower smoking prevalences in 1989 than in 1985. However, smoking prevalence increased in 1989 over 1985 among persons 55 years of age and older. Review of the data for individual years for each age group indicates no steady increases or decreases; rather, the data show fluctuation in prevalence among the various age groups during the five-year period.

Seat Belt Non-Use

Survey respondents were considered "at risk" if they reported that they sometimes, seldom, or never use seat belts when they drive or ride in a car. Table 6 presents the prevalence of seat belt non-use among South Carolina adults within race-sex groups and age groups for 1985 to 1989.

Table 6

PREVALENCE OF SEAT BELT NON-USE WITHIN RACE-SEX GROUPS AND AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1985 - 1989

CHARACTERISTIC	PERCENT AT RISK				
	1985	1986	1987	1988	1989
TOTAL	66.0	52.5	52.7	49.0	38.8
RACE-SEX GROUP					
White Male	63.4	54.3	55.3	48.5	41.2
White Female	65.1	48.6	47.6	44.9	32.0
Black Male	72.5	47.4	61.0	56.1	51.0
Black Female	70.8	62.5	54.4	54.1	39.2
AGE GROUP					
18-24	73.8	56.2	48.4	47.9	39.0
25-34	57.8	46.2	47.6	43.4	38.8
35-44	62.4	46.5	52.7	47.3	36.1
45-54	66.1	57.6	59.5	54.7	38.1
55-64	67.6	58.5	56.7	51.1	45.2
≥65	68.4	56.4	57.1	55.1	37.9

1989 Survey Results - The 1989 prevalence of seat belt non-use among South Carolina's adult population was 38.8%. Males were more likely to not use seat belts than females, and blacks reported more non-use than whites. The highest prevalence of non-use was among black males (51.0%), followed by white males (41.2%). White females had the lowest prevalence, with 32.0%

reporting that they sometimes, seldom, or never use seat belts (see Appendix A, Figure 13,). The prevalence of seat belt non-use was similar among all age groups except 55-64-year-olds. Non-use was highest among 55-64-year-olds (45.2%), while ranging from 36.1% to 38.8% among all the other age groups (see Appendix A, Figure 14).

1985-1989 Trends - South Carolina began seriously debating and promoting mandatory use of seat belts in 1985. A mandatory seat belt usage law became effective July 1, 1989, with penalties to be imposed as of January 1, 1990. As the data in Table 6 show, seat belt non-use declined steadily during the five-year period from debate to passage of South Carolina's seat belt law.

Seat belt non-use declined steadily among both white and black females between 1985 and 1989. The largest change was among white females, whose prevalence decreased by 33.1% over the five-year period. Black females had the highest prevalence in 1985, at 70.8%; in 1989, this percentage dropped to 39.2%. Survey results for males were similar for both races. The prevalence for both black and white males dropped in 1986, increased in 1987, then declined again in both 1988 and 1989. The decrease from 1985 to 1989 was similar among black and white males: 21.5% for black males and 22.2% for white males (see Appendix A, Figure 15).

Changes in prevalence of seat belt non-use among age groups were similar to those for the race-sex groups (see Appendix A, Figure 16). All age groups had a lower prevalence in 1989 than in 1985. The declines, however, were not steady over the five-year period. Survey results indicate steady decreases in non-use over the five-year period among respondents 18-24 years old and 55-64 years old, while prevalences for the other age groups fell in 1986, rose in

1987, and fell again in 1988 and 1989. The biggest changes were among the young (18-24 years old) and the elderly (≥65 years old). The prevalence of seat belt non-use for young persons dropped from 73.8% in 1985 to 39.0% in 1989, a 34.8% decrease. Among the elderly, the prevalence dropped from 68.4% in 1985 to 37.9% in 1989, a 30.5% decrease.

Current Hypertension

Survey respondents were considered "at risk" if they reported that (1) they had been told more than once that their blood pressure is high, (2) their blood pressure is still high, or (3) they are currently taking medication to control hypertension. Table 7 presents the prevalence of current hypertension among South Carolinians within race-sex groups and age groups for 1985-1989.

It should be noted that, because of the BRFSS definition used, only persons who are aware that they have hypertension are included in the "at risk" data in this report. The data exclude an undetermined "at risk" population of individuals who have hypertension but are not aware that they have it. Therefore, the true prevalence of hypertension may be higher than data in this report indicate. It should also be noted that increases in prevalence over the five-year period may suggest increases in awareness of hypertension rather than increases in the condition itself.

Table 7

PREVALENCE OF CURRENT HYPERTENSION WITHIN RACE-SEX GROUPS AND AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1985 - 1989

CHARACTERISTIC	PERCENT AT RISK				
	1985	1986	1987	1988	1989
TOTAL	18.6	19.1	20.7	18.7	19.1
RACE-SEX GROUP					
White Male	17.3	16.8	19.3	16.0	17.9
White Female	17.0	18.2	20.9	18.3	16.2
Black Male	14.7	19.9	13.8	21.4	17.4
Black Female	29.8	27.4	30.6	23.8	30.7
AGE GROUP					
18-24	5.6	3.9	3.4	1.5	2.4
25-34	5.1	4.8	8.0	6.0	5.6
35-44	16.4	12.5	17.7	15.0	11.6
45-54	23.1	22.3	33.3	20.4	30.7
55-64	32.1	37.6	37.9	37.4	35.5
≥65	46.1	51.5	40.7	47.9	47.2

1989 Survey Results - The 1989 prevalence of current hypertension among South Carolina's adult population was 19.1%. Black females had the highest prevalence by far, at 30.7%. The black female prevalence was nearly double the prevalence for the remaining race-sex groups. At 17.9% and 17.4% respectively, the percentages for white males and black males were virtually the same, while white females, at 16.2%, had the lowest prevalence of any of the race-sex groups (see Appendix A, Figure 17).

Age-group data, depicted in Appendix A, Figure 18, clearly shows that hypertension among survey respondents increased with age. A third or more of adults 45-64 years old, and nearly 50% of the elderly (≥65 years old), reported having hypertension. Further, the data suggests doubling of the likelihood

of having hypertension when moving from one of the three youngest age groups to the next. For example, adults 25-34 years old had twice the prevalence of those 18-24 years old (5.6% vs. 2.4%), and adults 35-44 years of age had twice the prevalence of those 25-34 years old (11.6% vs. 5.6%).

1985-1989 Trends - The prevalence of current hypertension remained at approximately 18%-20% of the adult population from 1985 to 1989. Over the five-year period, black females consistently had the highest prevalence (30.7% in 1989) of the four race-sex groups. 1989 prevalences were higher than in 1985 for all race-sex groups except white females, but there was considerable fluctuation among each of the race-sex groups from one year to the next over the five-year period (see Appendix A, Figure 19).

While little consistency appears in the race-sex-group data, a great deal of consistency is found in age-group data (see Appendix A, Figure 20). In each of the five years reviewed, the prevalence of hypertension increased with age, with one minor exception (in 1985, the prevalence for persons 25-34 years old was slightly less--by 0.5%--than that for persons 18-24 years old). Hypertension prevalence was higher in 1989 than in 1985 for persons 25-34 years old and 45 years of age or older; it was lower for individuals 18-24 years old and 35-44 years old.

Sedentary Life-Style

Survey respondents were considered "at risk" if they reported that they performed no physical exercise, or exercised less than three times a week for less than 20 minutes per session. Table 8 presents the prevalence of seden-

tary life-style among South Carolina adults within race-sex groups and age groups for 1985 to 1989.

Table 8

PREVALENCE OF SEDENTARY LIFE-STYLE WITHIN RACE-SEX GROUPS AND AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1985 - 1989

CHARACTERISTIC	PERCENT AT RISK				
	1985	1986	1987	1988	1989
TOTAL	64.4	46.0	60.7	65.4	68.4
RACE-SEX GROUP					
White Male	63.7	48.6	57.1	61.9	65.3
White Female	64.5	44.1	60.4	62.4	66.4
Black Male	63.1	44.4	62.8	72.5	75.3
Black Female	66.9	45.3	70.7	74.4	74.3
AGE GROUP					
18-24	59.8	46.3	49.9	64.3	61.5
25-34	57.3	44.4	55.9	62.3	68.1
35-44	66.7	50.1	63.5	65.7	67.8
45-54	72.4	47.5	65.4	68.4	74.8
55-64	67.4	46.5	63.6	63.4	62.5
≥65	71.1	41.5	70.9	70.5	76.4

1989 Survey Results - The 1989 prevalence of sedentary life-style among adults in South Carolina was 68.4%. According to the data shown in Table 8 and depicted in Appendix A, Figure 21, blacks are somewhat more likely to lead an inactive life-style than whites. The highest prevalence was reported by black males (75.3%), followed by black females (74.3%). White females, 66.4% of whom reported sedentary life-styles, were slightly more inactive than white males (66.4% vs. 65.3%), but considerably more active than black females, 74.3% of whom reported an inactive life-style. Black females were slightly

more active than black males (74.3% female prevalence vs. 75.3% male prevalence).

Among age groups, the elderly (≥65 years old) reported being the most inactive (76.4% sedentary), followed by those 45-54 years old (74.8% sedentary). Persons 55-64 years old were the next to the most active adults (62.5% sedentary), only one percentage point separating them from the youngest, most active adults (see Appendix A, Figure 22).

1985-1989 Trends - The proportion of South Carolina adults reporting a sedentary life-style increased from 64.4% in 1985 to 68.4% in 1989. As illustrated in Appendix A, Figure 23, most of the 4% increase was attributed to blacks of both sexes. The proportion of black males leading an inactive life-style increased 12.2%, while the increase for black females was 7.5%. White males showed the smallest increase (1.6%). The prevalence of sedentary life-style increased in 1989 over 1985 for all age groups except 55-64-year-olds. The largest increase occurred among 25-34-year-olds, whose prevalence increased almost 11% between 1985 and 1989. Prevalence declined in all age groups between 1985 and 1986, but climbed again in 1987 and generally continued to increase in 1988 and 1989 (see Appendix A, Figure 24).

Chronic Drinking

Survey respondents were considered "at risk" if they reported drinking 60 or more drinks during the past month. A "drink" was defined as one can or bottle of beer, one glass of wine, one can or bottle of wine cooler, one cocktail, or one shot of liquor. Table 9 presents the prevalence of chronic

drinking among South Carolina adults within race-sex groups and age groups for 1985 to 1989.

Table 9

PREVALENCE OF CHRONIC DRINKING WITHIN RACE-SEX GROUPS AND AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1985 - 1989

CHARACTERISTIC	PERCENT AT RISK				
	1985	1986	1987	1988	1989
TOTAL	5.3	4.1	5.6	4.3	2.2
RACE-SEX GROUP					
White Male	8.6	8.4	9.6	8.9	4.5
White Female	2.3	2.0	2.5	1.5	0.4
Black Male	10.2	4.6	8.8	5.1	2.3
Black Female	0.7	0.2	1.5	0.2	1.2
AGE GROUP					
18-24	7.7	5.8	9.6	6.1	4.5
25-34	4.8	4.6	5.8	3.3	2.3
35-44	5.4	4.5	5.2	6.1	2.5
45-54	4.9	3.3	4.4	3.8	2.2
55-64	4.7	2.9	4.8	5.3	0.7
≥65	2.7	1.9	3.2	1.6	0.5

1989 Survey Results - The 1989 prevalence of chronic drinking among adult South Carolinians was 2.2%. As shown in Table 9 and Appendix A, Figure 25, the prevalence of chronic drinking was highest among white males, followed by black males. The percentage among black males, however, was about half the percentage of white males (2.3% vs. 4.5%). White females reported chronic drinking the least. The prevalence of chronic drinking was highest among young persons (18-24 years old) and lowest among older persons (55-64 years old) and the elderly (≥65 years old). The percentages of chronic drinking for

each of the remaining age groups (25-34, 35-44, and 45-54 years old) were only about half of the 18-24-year-olds' percentage (see Appendix A, Figure 26).

1985-1989 Trends - Disaggregating survey responses on chronic drinking by race-sex groups or age groups results in numbers too small for trend data to be considered statistically reliable. However, data for the total survey sample indicates that the overall prevalence of chronic drinking fell from 5.3% to 2.2% of adult South Carolinians between 1985 and 1989.

Overweight

Initially, survey respondents were considered "at risk" if they reported a weight which was greater than 120% of their ideal weight, as defined by the mid-value for a medium-frame person of the same height from the 1959 Metropolitan Height/Weight Tables. As of 1987, however, overweight has been determined by means of Body Mass Index (BMI), which is defined as one's weight in kilograms divided by one's height in meters squared. The BMI is the preferred measure of overweight because it has been shown to have a higher correlation with fatness; normative national data on BMI are available for the first time from the Second National Health and Nutrition Examination Survey 1976-1980, and; the National Center for Health Statistics is using BMI to monitor progress toward the Year 2000 Health Objectives on weight.

Female survey respondents were considered "at risk" if they reported a BMI ≥27.3%; male respondents were considered "at risk" if they reported a BMI ≥27.8%. Table 10 presents the prevalence of overweight persons among South Carolina adults, based on Body Mass Index, within race-sex groups and age groups for 1987-1989.

Table 10

PREVALENCE OF OVERWEIGHT WITHIN RACE-SEX GROUPS AND AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1987 - 1989

CHARACTERISTIC	PERCENT AT RISK		
	1987	1988	1989
TOTAL	20.8	21.7	20.7
RACE-SEX GROUP			
White Male	22.6	20.0	21.4
White Female	13.9	18.0	16.3
Black Male	23.3	26.9	23.2
Black Female	35.7	29.9	27.8
AGE GROUP			
18-24	11.8	11.6	9.0
25-34	17.1	17.0	15.5
35-44	25.6	23.1	28.2
45-54	26.7	31.4	28.7
55-64	24.1	26.4	28.2
≥65	23.2	27.8	20.2

1989 Survey Results - The 1989 prevalence of overweight among South Carolina's adult population was 20.7%. Black females had the highest prevalence, at 27.8%, followed by black males, at 23.2%. Among white males, 21.4% were "at risk," while white females, at 16.3%, had the lowest prevalence of any of the race-sex groups (see Appendix A, Figure 27).

Younger adults (18-24 years old), with a prevalence of 9.0%, were the least likely to be overweight, followed by persons 25-34 years old, 15.5% of whom were overweight. As illustrated in Appendix A, Figure 28, the prevalence of overweight adults peaked in the middle to older years, between ages 35 and 64, with persons 45-54 years old just slightly more likely to be overweight (28.7% overweight) than the surrounding categories of 35-44 years old and 55-64 years

old (28.2% overweight). This peaking was followed by a drop to 20.2% among the elderly (≥65 years old).

1987-1989 Trends - During the three-year period in which Body Mass Index was used to determine weight status, the proportion of overweight persons was consistently around one fifth of the adult population. Blacks were more likely to be overweight than whites. Black females had the greatest likelihood of being overweight for all three years; they were also the only race-sex group whose prevalence decreased steadily each year. From a high of 35.7% in 1987, the prevalence of overweight black females dropped to 27.8% in 1989, the largest percentage change experienced by any of the race-sex groups.

The prevalence of overweight among whites of both sexes and black males increased in 1988 over 1987, but declined in 1989. The declines for males of both races brought their percentages down to levels lower than they had been in 1987. Although white females were the least likely to be overweight in any of the three years reviewed, they were also the only group whose 1989 prevalence (16.3%) was higher than it had been in 1987 (see Appendix A, Figure 29).

While the overall prevalence of overweight adults remained around 20% from 1987 to 1989, there were variations from year to year among the various age groups. The youngest age groups (18-24- and 25-34-year-olds) had the lowest percentages of overweight persons for all three years reviewed. These two age groups were also the only ones whose prevalence declined steadily over the three-year period. The percentage of overweight adults 35-44 years old dropped from 1987 to 1988, but, in 1989, the percentage climbed even higher than it had been in 1987 (25.6% in 1987; 28.2% in 1989).

Two groups, 45-54-year-olds and the elderly (65 years of age or older), showed increases in percentage of overweight persons in 1988, followed by decreases in 1989. The decrease among 45-54-year-olds (31.4% to 28.7%) did not reach the 1987 low of 26.7%, while the percentage of overweight elderly in 1989 did decline to a level lower than in 1987 (20.2% vs. 23.2%). One age group--55-64-year-olds--experienced increases of about 2% a year from 1987 to 1989. From a low of 24.1% in 1987, the percentage of 55-64-year-olds who were overweight increased to 26.4% in 1988 and to 28.2% in 1989 (see Appendix A, Figure 30).

Lack of Cholesterol Screening

Questions concerning cholesterol screening were added to the South Carolina BRFS in 1987. Survey respondents were considered "at risk" if they reported that they had never had their blood cholesterol checked. Table 11 presents the prevalence of lack of cholesterol screening among the adult population of South Carolina within race-sex groups and age groups for 1987-1989.

Table 11

PREVALENCE OF LACK OF CHOLESTEROL SCREENING
WITHIN RACE-SEX GROUPS AND AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1987 - 1989

CHARACTERISTIC	PERCENT AT RISK		
	1987	1988	1989
TOTAL	53.4	55.6	46.9
RACE-SEX GROUP			
White Male	51.0	52.6	45.2
White Female	52.9	48.1	41.9
Black Male	61.8	73.1	60.2
Black Female	54.7	65.5	50.8
AGE GROUP			
18-24	73.3	79.3	70.4
25-34	58.3	66.1	54.3
35-44	55.8	52.2	45.8
45-54	46.8	42.4	39.9
55-64	32.1	37.6	28.6
≥65	42.1	41.3	30.0

1989 Survey Results - Almost half (46.9%) of the 1989 survey respondents had never had their cholesterol checked. Higher percentages of blacks and males had never had their cholesterol checked. White females had the lowest prevalence, at 41.9%, and black males had the highest prevalence, at 60.2% (see Appendix A, Figure 31). The percentage of respondents who had never had their cholesterol measured generally decreased with age, ranging from about 70% of 18-24-year-olds to 30% or less among persons ≥55 years old (see Appendix A, Figure 32).

1987-1989 Trends - The percentage of persons who had never had a cholesterol screening rose from 53.4% in 1987 to 55.6% in 1988, but then dropped between 1988 and 1989 to 46.9%, the lowest level in the three-year period. Similar

fluctuation is apparent in all race-sex groups except white females, the percentage of whom had never had their cholesterol checked dropped from 52.9% in 1987 to 48.1% in 1988 and, further, to 41.9% in 1989. Among white males, the percentage increased only slightly between 1987 and 1988 (51.0% to 52.6%), then dropped considerably, to 45.2% in 1989. The percentages of both black males and black females who had never had a cholesterol screening rose by more than 10% between 1987 and 1988, but then dropped almost 13% among black males and 15% among black females between 1988 and 1989 (see Appendix A, Figure 33).

"At risk" percentages also rose in 1988, then dropped in 1989, among persons 18-34 and 55-64 years of age. The percentages for these age groups were, however, lower in 1989 than in 1987. For persons in age groups 35-54 and ≥65 years old, prevalence declined steadily over the three-year period. The biggest declines in "at risk" persons occurred among the elderly (≥65 years of age), whose prevalence dropped by 12%, and 35-44-year-olds, whose prevalence dropped by 10%, between 1987 and 1989 (See Appendix A, Figure 34).

High Blood Cholesterol

Survey respondents were considered "at risk" if they reported that they had had their blood cholesterol checked and had been told, on at least one occasion, that it was high. Table 12 presents the prevalence of high blood cholesterol levels among South Carolina adults within race-sex groups and age groups for 1987-1989.

As in the case of hypertension, the true prevalence of high blood cholesterol may be higher than data in this report indicate because only persons who have had their cholesterol checked and been told, on at least one occasion,

that it is high are included in the "at risk" data here. The data exclude an undetermined "at risk" population of individuals who have high cholesterol but are not aware that they have it. It should also be noted that increases in prevalence over the three-year period may not refelct actual increases in high cholesterol, but, rather, the increasing number of people being screened and an increasing tendency of doctors to address the issue with their patients.

Table 12

PREVALENCE OF HIGH BLOOD CHOLESTEROL WITHIN
RACE-SEX GROUPS AND AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1987 - 1989

CHARACTERISTIC	PERCENT AT RISK		
	1987	1988	1989
TOTAL	14.0	20.4	22.8
RACE-SEX GROUP			
White Male	12.9	25.4	21.0
White Female	14.2	17.6	27.9
Black Male	14.7	30.7	11.8
Black Female	16.4	8.5	20.4
AGE GROUP			
18-24	2.6	0.8	4.9
25-34	8.6	10.6	10.9
35-44	8.7	16.4	20.0
45-54	18.5	28.0	28.1
55-64	22.8	33.5	40.5
≥65	20.2	24.5	28.9

1989 Survey Results - Based on respondents who had been tested for blood cholesterol level, about one in five (22.8%) reported that they had been told, on at least one occasion, that they had a high cholesterol level. White respondents were more likely to report having been told that they had a high

cholesterol level than black respondents (48.9% vs 32.2%). The prevalence of high blood cholesterol was lowest among black males (11.8%) and highest among white females (27.9%), as illustrated in Appendix A, Figure 35.

The prevalence of high blood cholesterol levels increased with age up to age 64. Among respondents approaching retirement age, the prevalence was more than twice that of individuals 35-44 years old and nearly ten times higher than that of the youngest age group, 18-24-year-olds (see Appendix A, Figure 36.

1987-1989 Trends - The prevalence of high blood cholesterol levels among BRFS respondents increased from 14.0% in 1987 to 22.8% in 1989. Between 1987 and 1988, the prevalence among white males nearly doubled (from 12.9% to 25.4%), then dropped in 1989. The 1989 percentage (21.0%), however, was considerably higher than the 1987 prevalence of 12.9%. Similarly, the prevalence among black males increased between 1987 and 1988, from 14.7% to 30.7%, then fell in 1989. In contrast to that of white males, however, the black male prevalence for 1989 (11.8%) decreased to a lower level than it had been in 1987 (14.7%).

The only race-sex group to have a lower prevalence in 1988 than in 1987 was black females, whose 1988 prevalence (8.5%) was about half of what it had been in 1987 (16.4%). However, there was a substantial increase between 1988 and 1989 (8.5% to 20.4%). The prevalence for white females climbed in both 1988 and 1989. The increase between 1987 and 1988 was 3.4%; the increase between 1988 and 1989 was more than 10% (See Appendix A, Figure 37).

According to the prevalence data shown in Table 12 and Appendix A, Figure 38, high blood cholesterol levels increased with age up to age 64. For all age groups except 18-24-year-olds, the percentage of the group reporting high blood

cholesterol increased in both 1988 and 1989. Although 18-24-year-olds had the lowest prevalence each of the three years, after showing a decline from 1987 to 1988, the age group's prevalence increased in 1989. For each of the three years examined, the prevalence among respondents ≥65 years of age were higher than those for individuals 18-44 years of age but lower than those for persons 55-64 years old. Respondents 55-64 years old consistently had the highest prevalence of high blood cholesterol among all age group for all three years.

Summary and Conclusion

Figures 1 through 8 in Appendix A summarize the results of the 1985-1989 South Carolina Behavioral Risk Factor Surveys, presenting the overall prevalences (percentages) of the population at increased risk for preventable illnesses and death for each of the health risk factors discussed in this report. Figures 9 through 38 present the prevalences within race-sex groups and age groups.

The limitations of telephone surveys and self-reported data were noted earlier, and data users were cautioned about making inferences from detailed groups smaller than those for general prevalence factors. These limitations and cautions, however, do not negate the value of monitoring health behaviors on an ongoing basis. Through systematic surveillance, high-risk groups can be identified and long-term trends can be monitored. From the survey results, health professionals can establish baseline health data, formulate health promotion goals and objectives, and decide on intervention priorities. Data from future surveys will make it possible to assess the long-term impact of health promotion activities and risk-reduction interventions.

APPENDIX A

BRFS CHARTS

Figure 1
PREVALENCE OF CURRENT SMOKING
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1985 - 1989

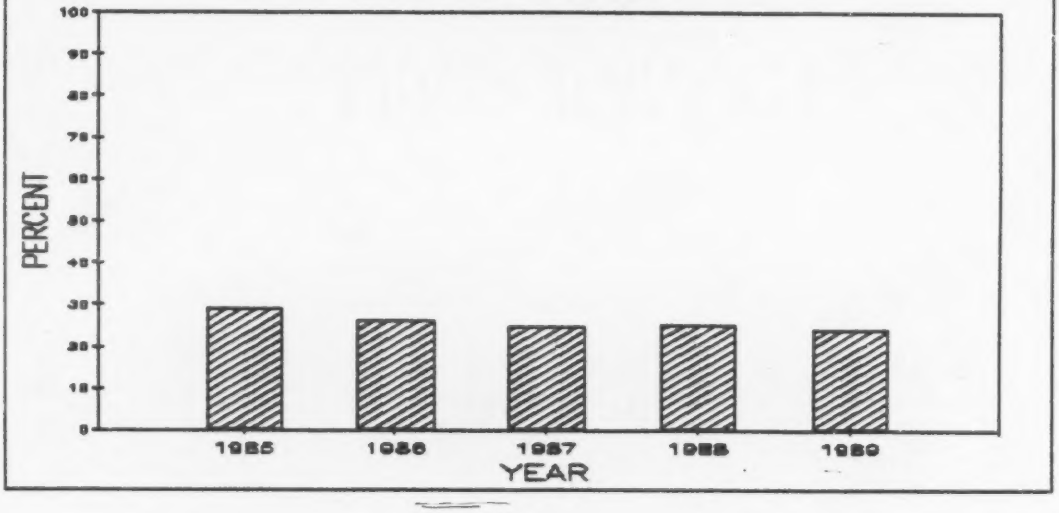


Figure 2
PREVALENCE OF SEAT BELT NON-USE
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1985 - 1989

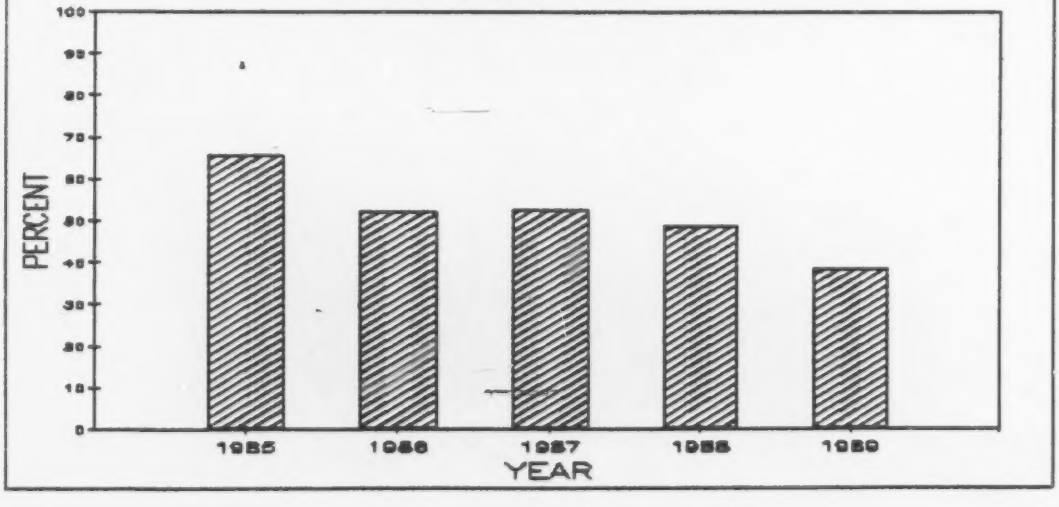


Figure 3
PREVALENCE OF CURRENT HYPERTENSION
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1985 - 1989

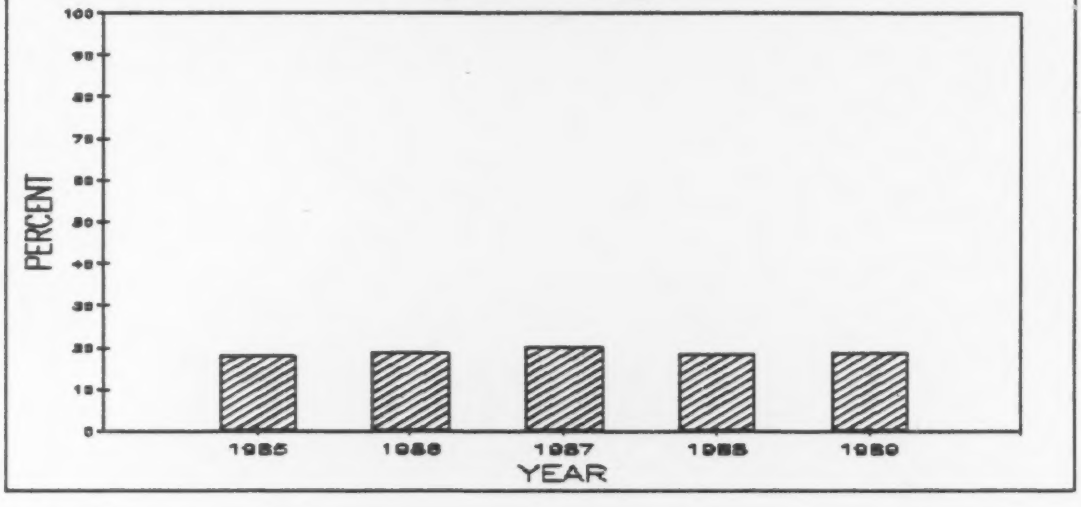


Figure 4
PREVALENCE OF SEDENTARY LIFE-STYLE
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1985 - 1989

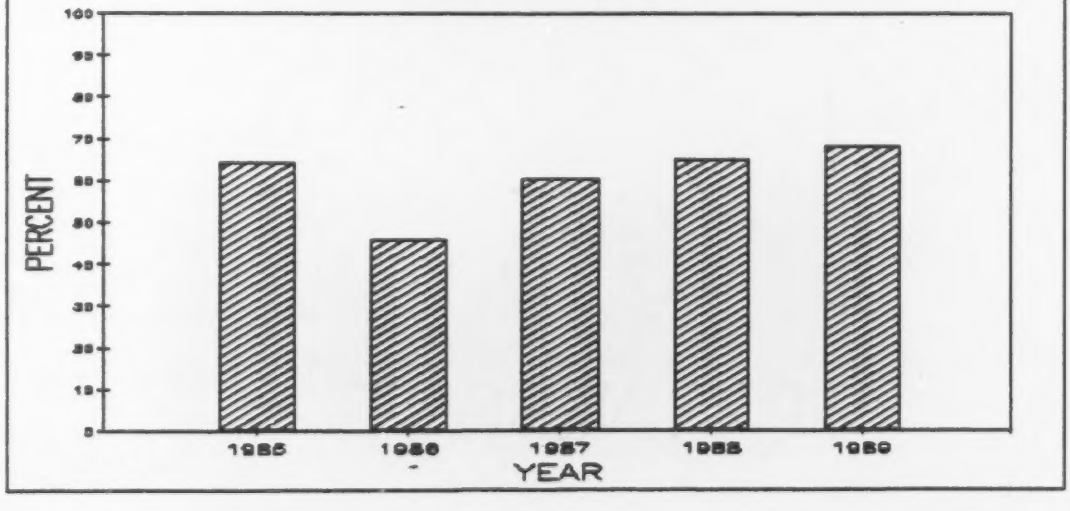


Figure 5
PREVALENCE OF CHRONIC DRINKING
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1985 - 1989

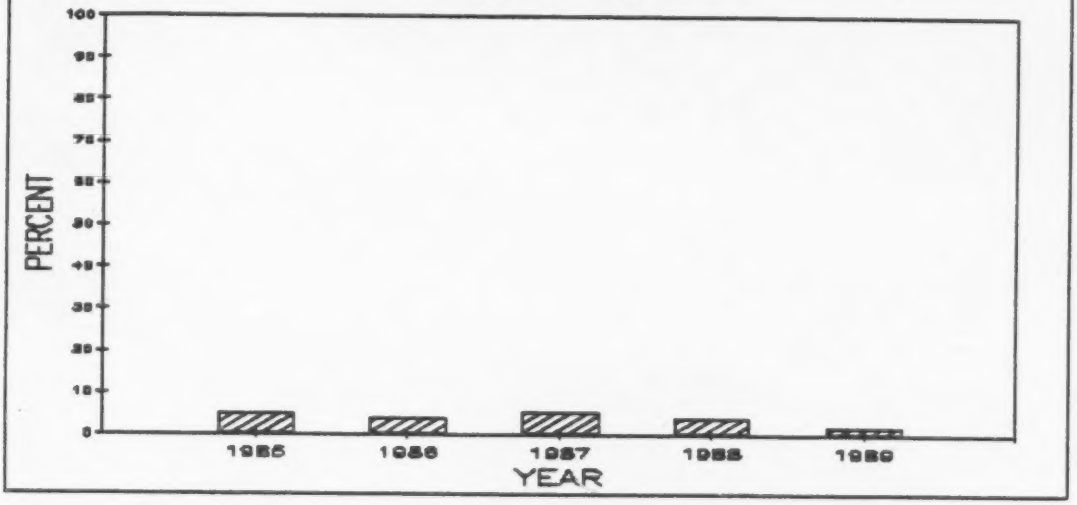


Figure 6
PREVALENCE OF OVERWEIGHT
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1987 - 1989

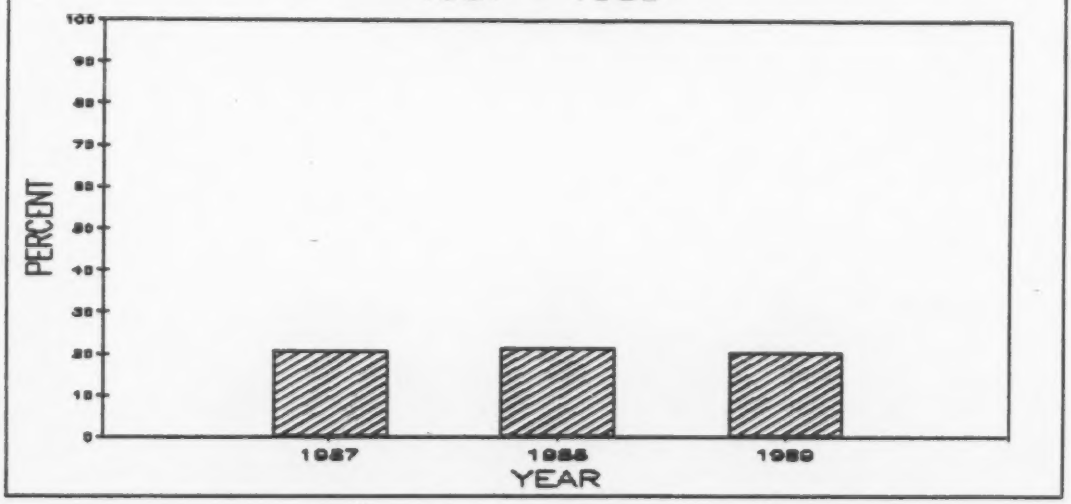


Figure 7
PREVALENCE OF LACK OF CHOLESTEROL SCREENING
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1987 - 1989

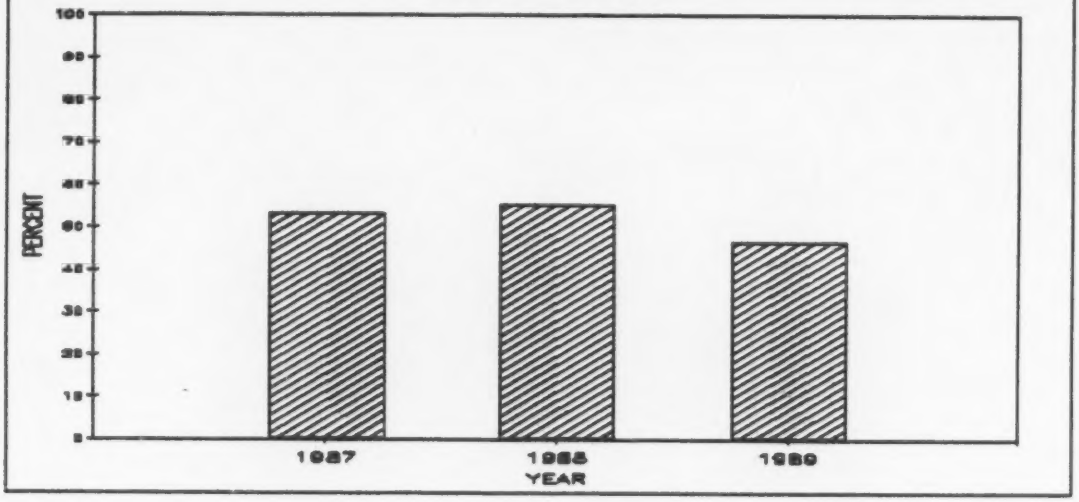


Figure 8
PREVALENCE OF HIGH BLOOD CHOLESTEROL
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1987 - 1989

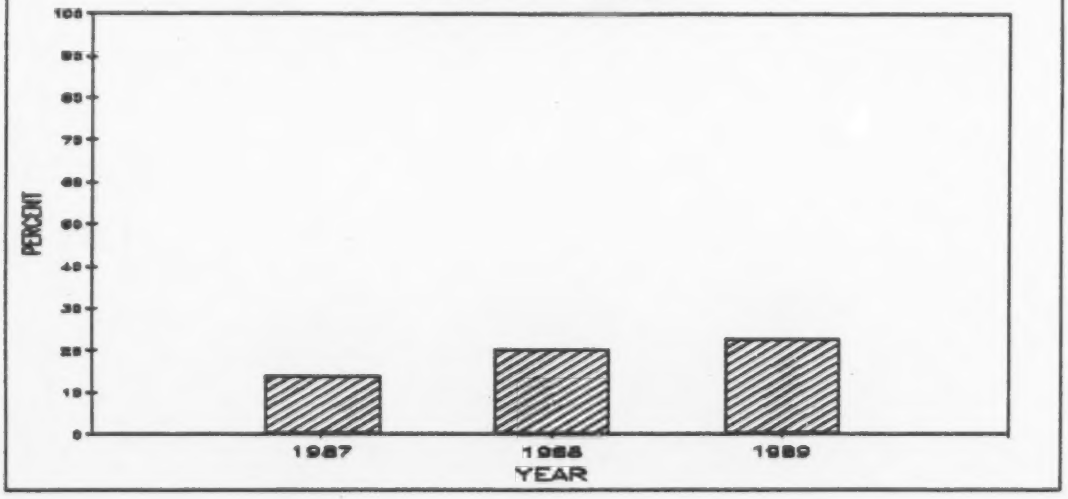


Figure 9
PREVALENCE OF CURRENT SMOKING WITHIN RACE-SEX GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1989

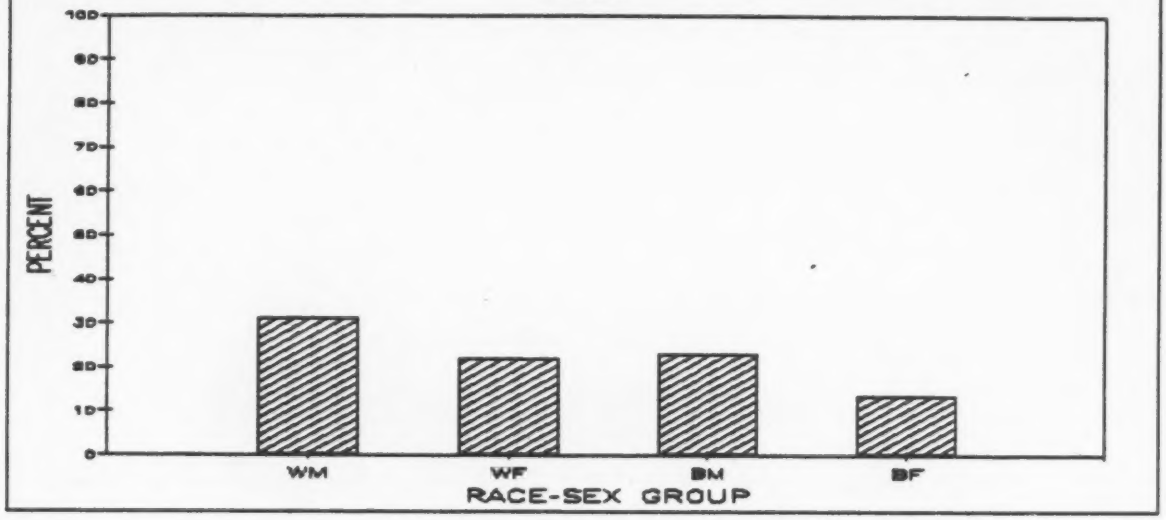


Figure 10
PREVALENCE OF CURRENT SMOKING WITHIN AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1989

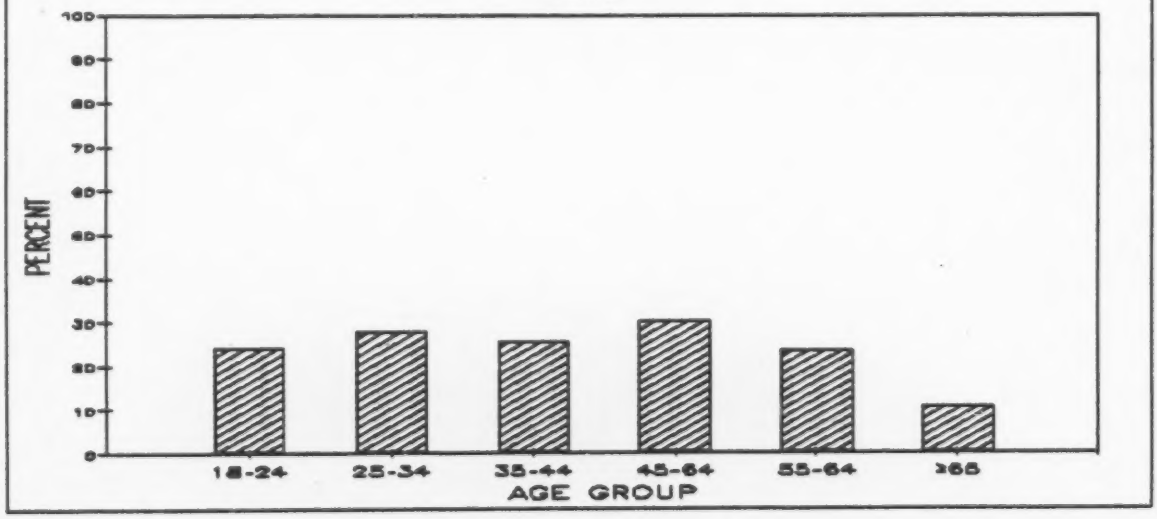


Figure 11
PREVALENCE OF CURRENT SMOKING WITHIN RACE-SEX GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1985 - 1989

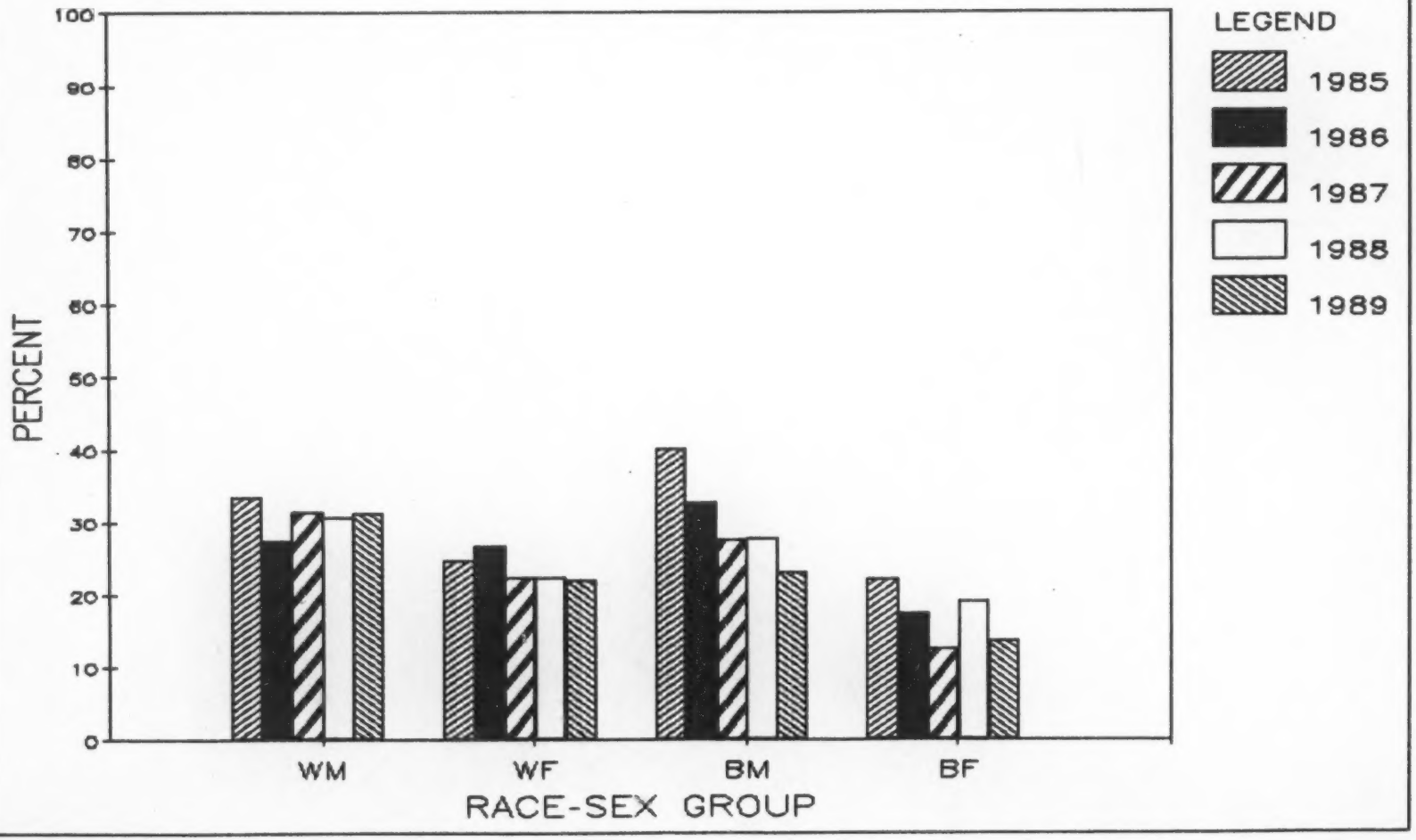


Figure 12
PREVALENCE OF CURRENT SMOKING WITHIN AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1985 - 1989

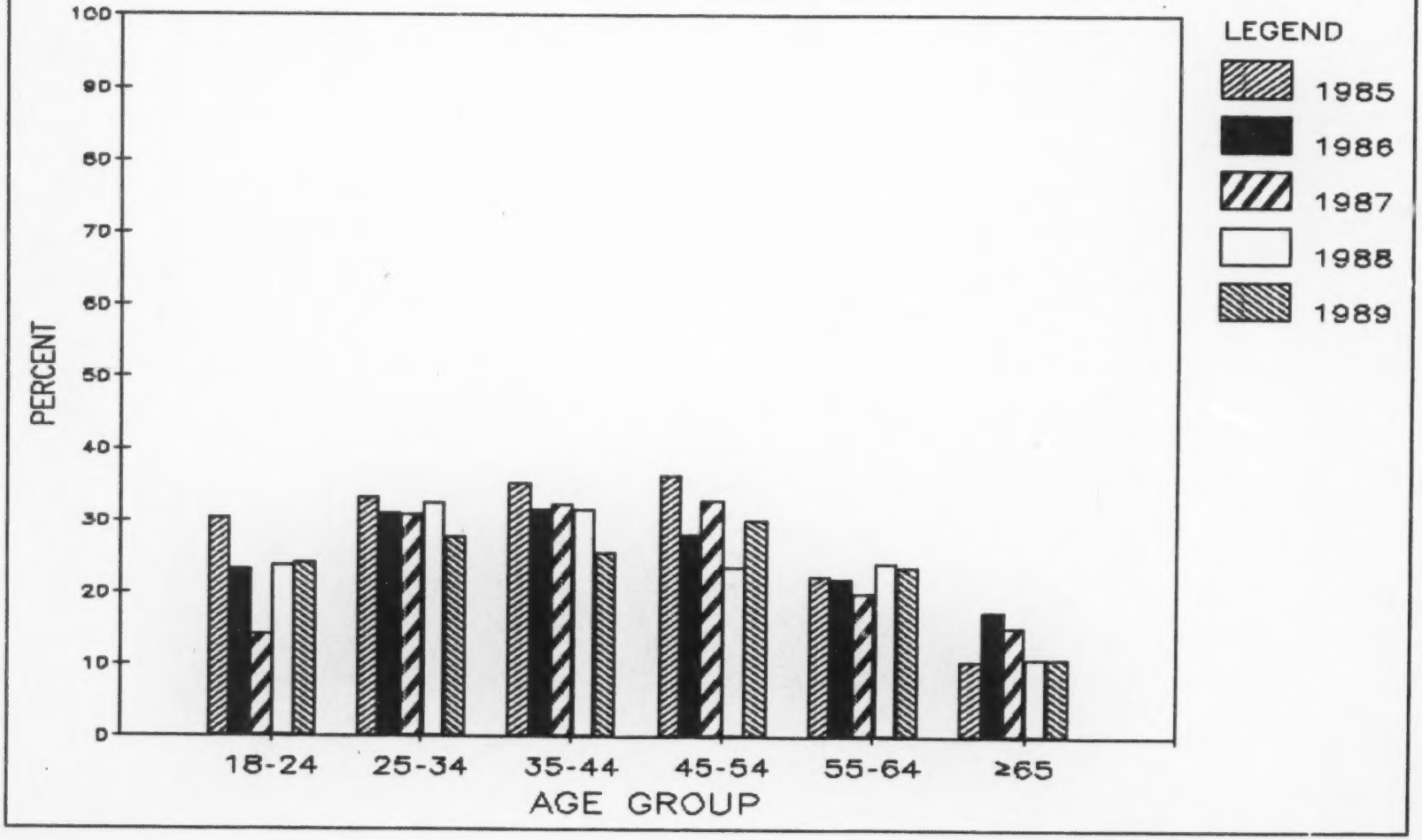


Figure 13
PREVALENCE OF SEAT BELT NON-USE WITHIN RACE-SEX GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1989

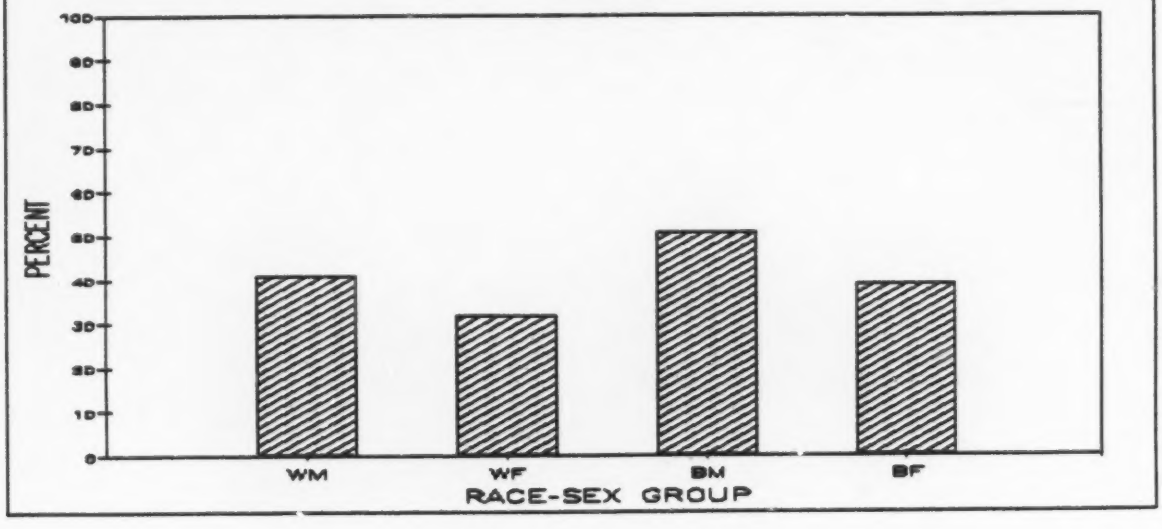


Figure 14
PREVALENCE OF SEAT BELT NON-USE WITHIN AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1989

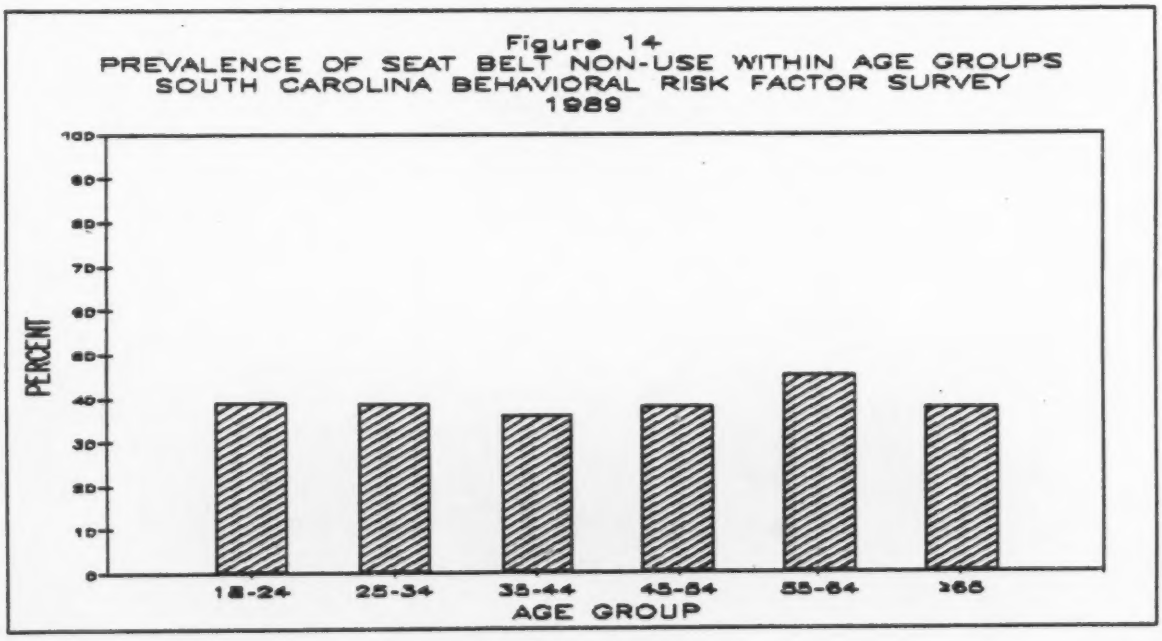


Figure 15
PREVALENCE OF SEAT BELT NON-USE WITHIN RACE-SEX GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1985 - 1989

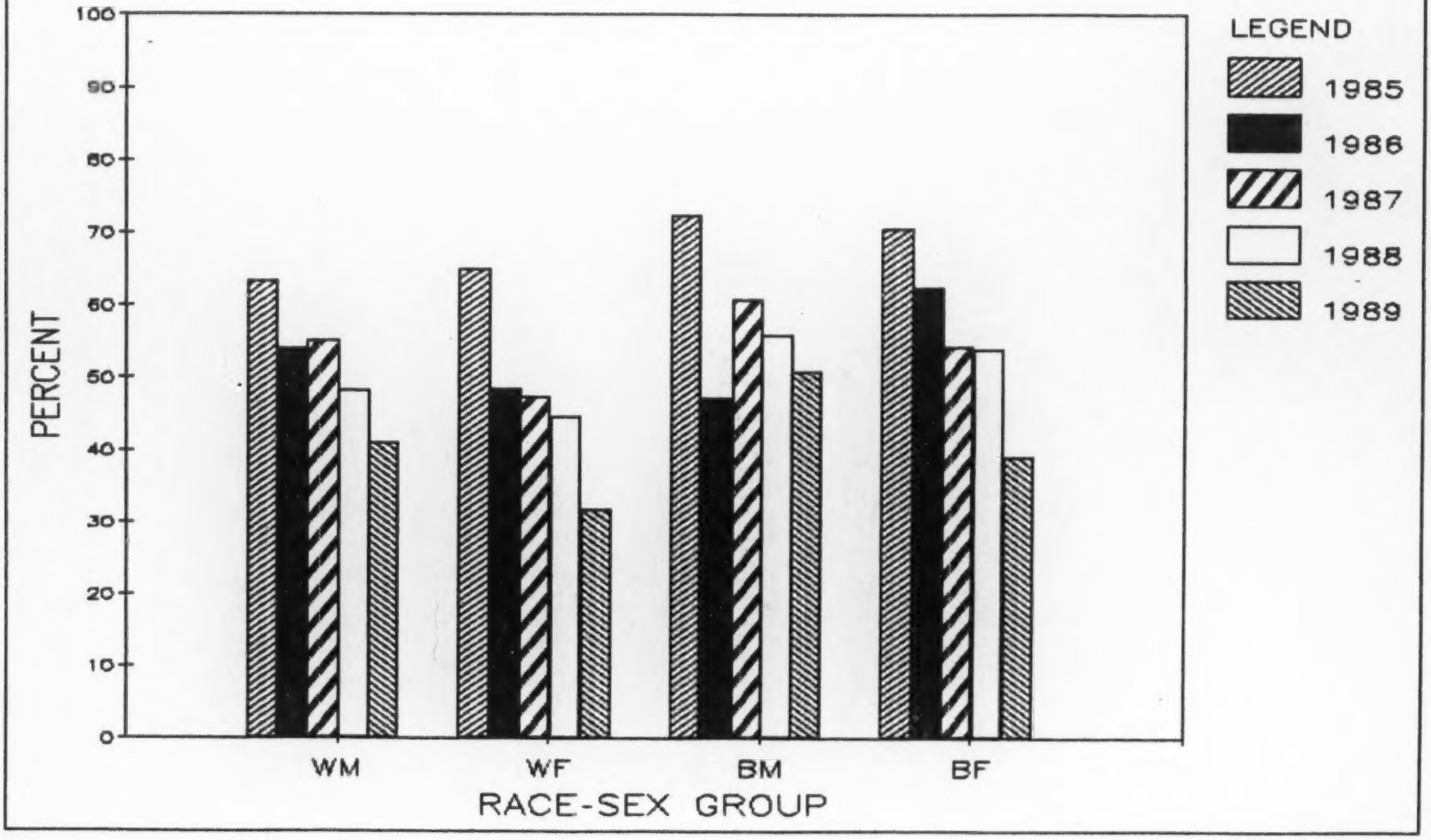


Figure 16
PREVALENCE OF SEAT BELT NON-USE WITHIN AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1985 - 1989

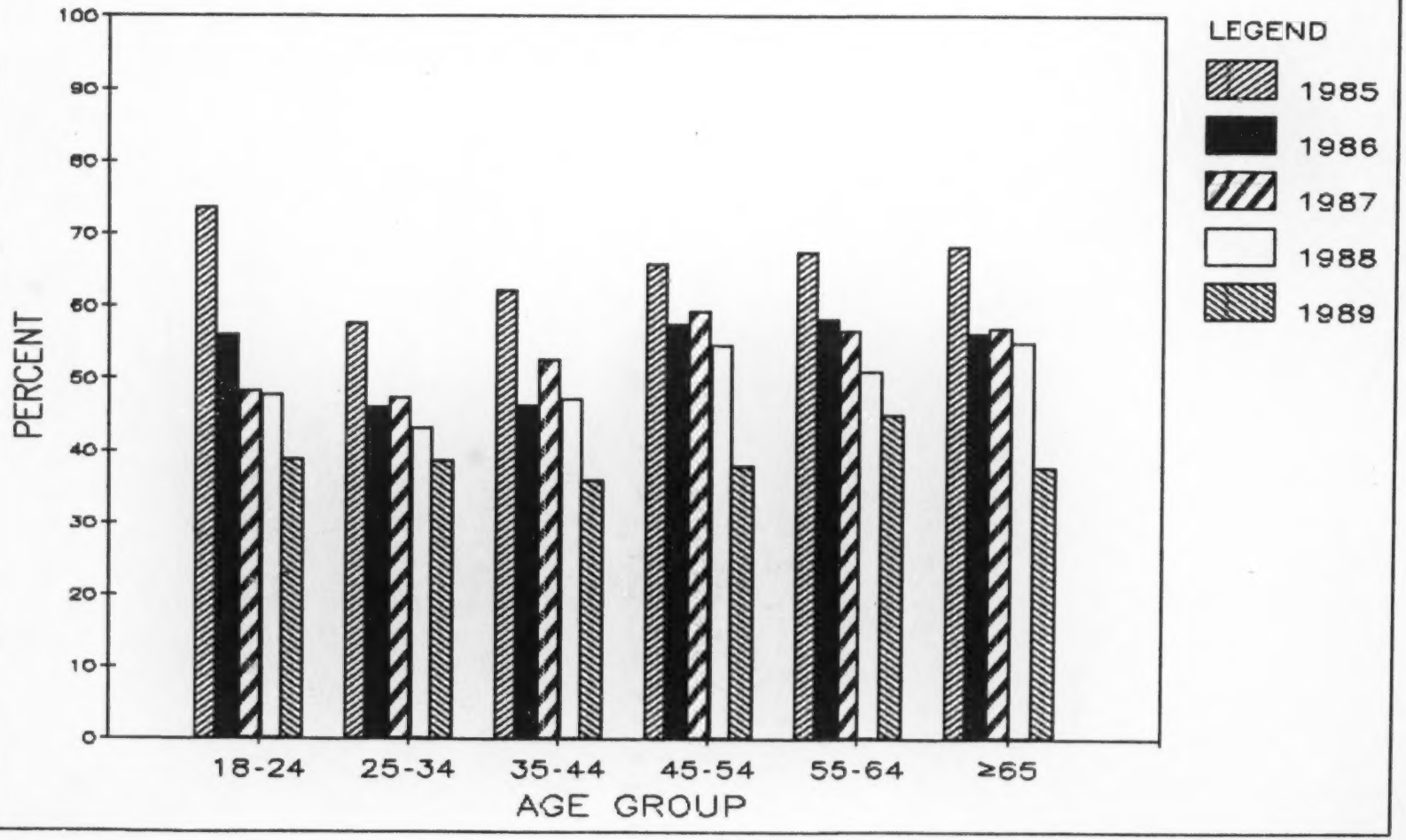


Figure 17
PREVALENCE OF CURRENT HYPERTENSION WITHIN RACE-SEX GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1989

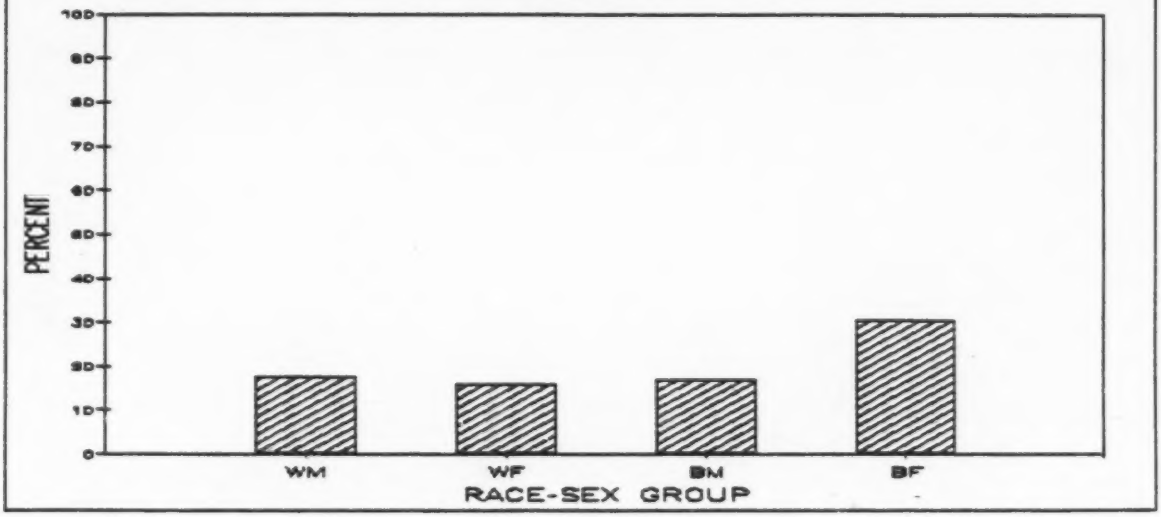


Figure 18
PREVALENCE OF CURRENT HYPERTENSION WITHIN AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1989

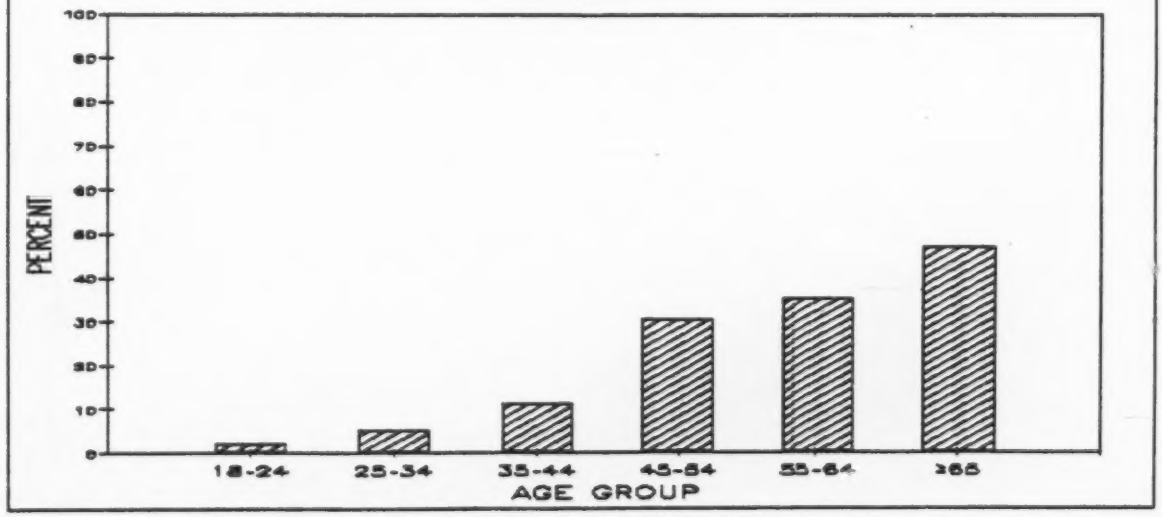


Figure 19
PREVALENCE OF CURRENT HYPERTENSION WITHIN RACE-SEX GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1985 - 1989

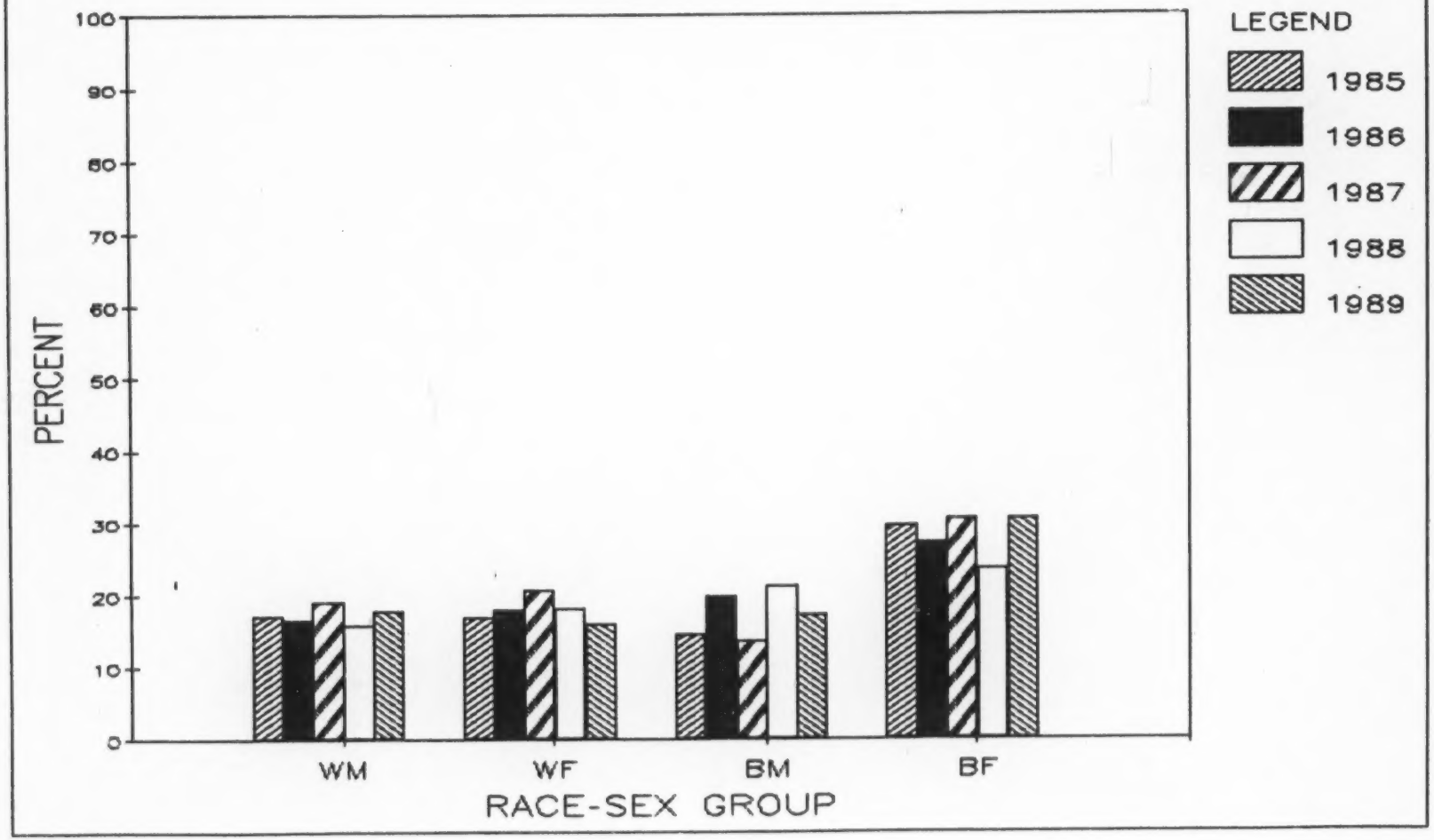


Figure 20
PREVALENCE OF CURRENT HYPERTENSION WITHIN AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1985 - 1989

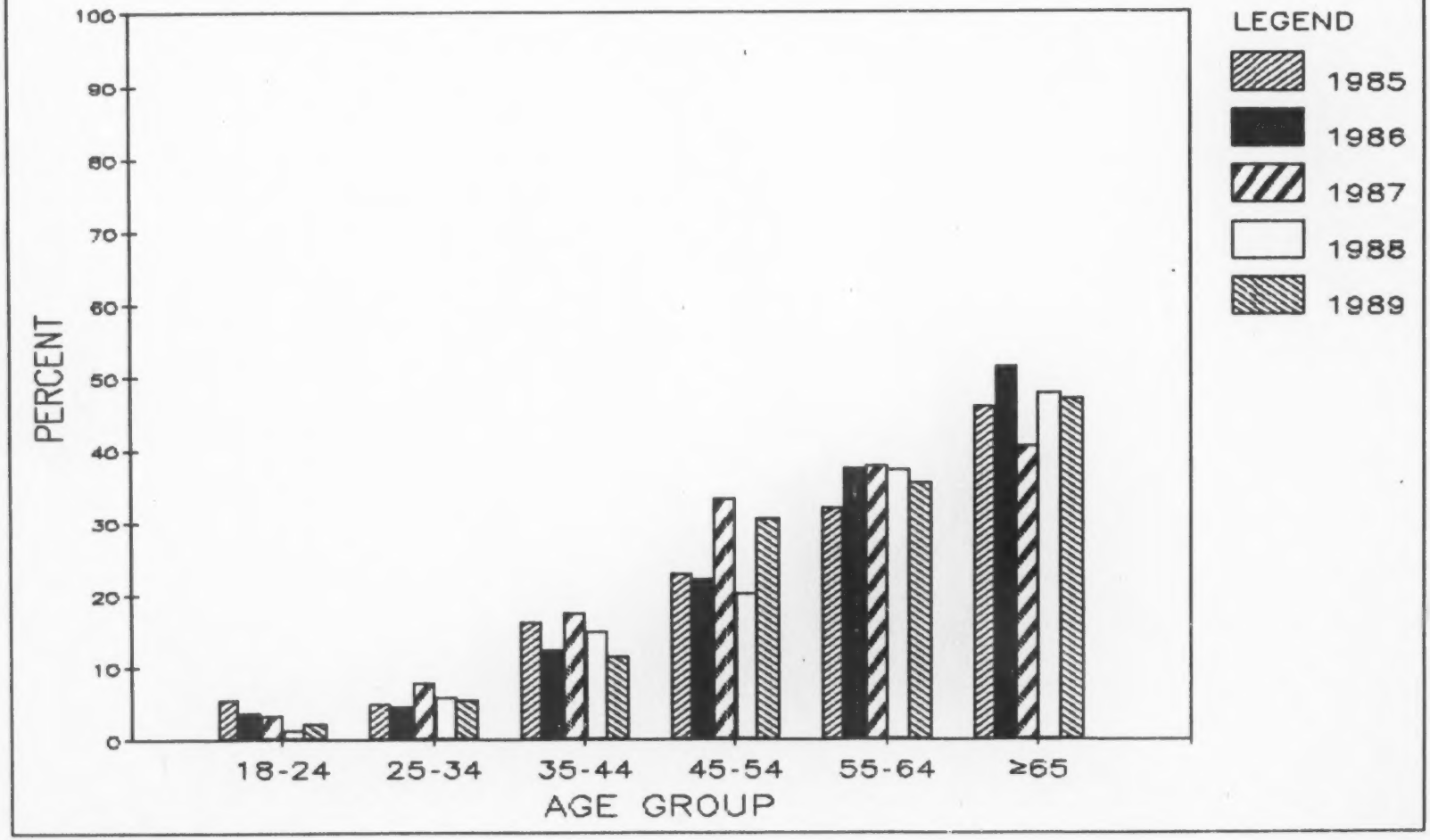


Figure 21
PREVALENCE OF SEDENTARY LIFE-STYLE WITHIN RACE-SEX GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1989

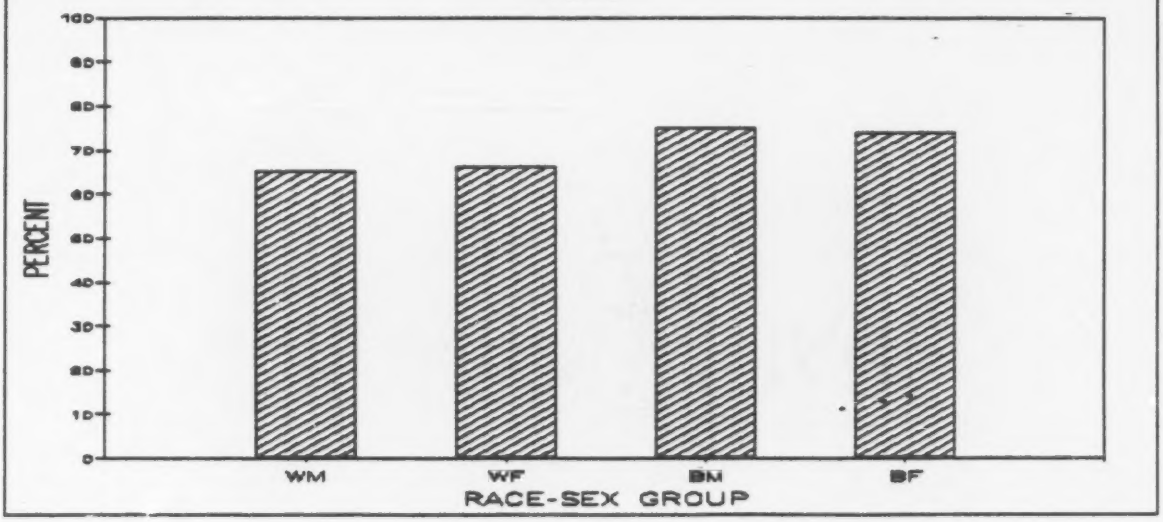


Figure 22
PREVALENCE OF SEDENTARY LIFE-STYLE WITHIN AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1989

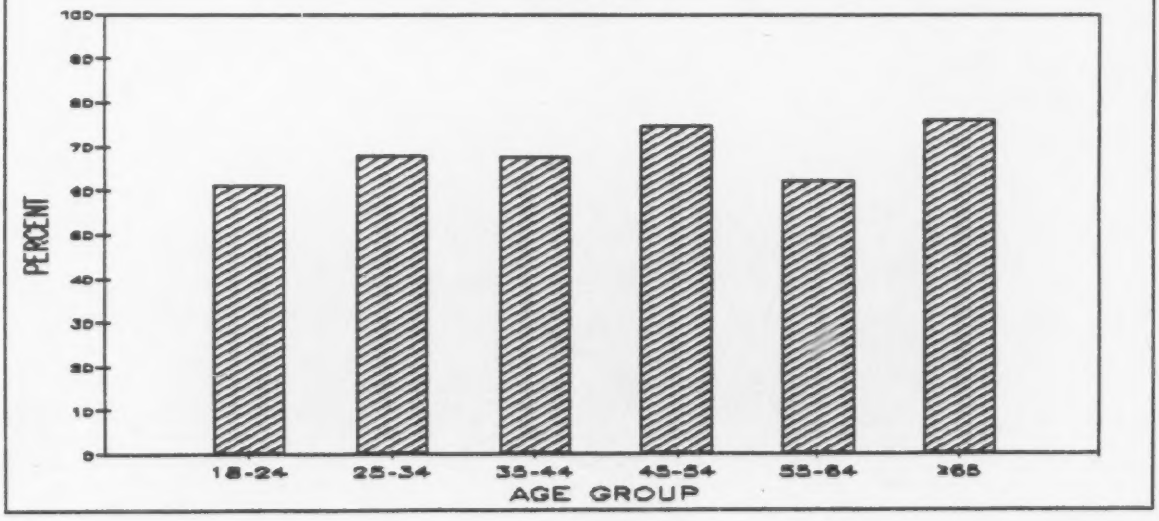


Figure 23
PREVALENCE OF SEDENTARY LIFE-STYLE WITHIN RACE-SEX GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1985 - 1989

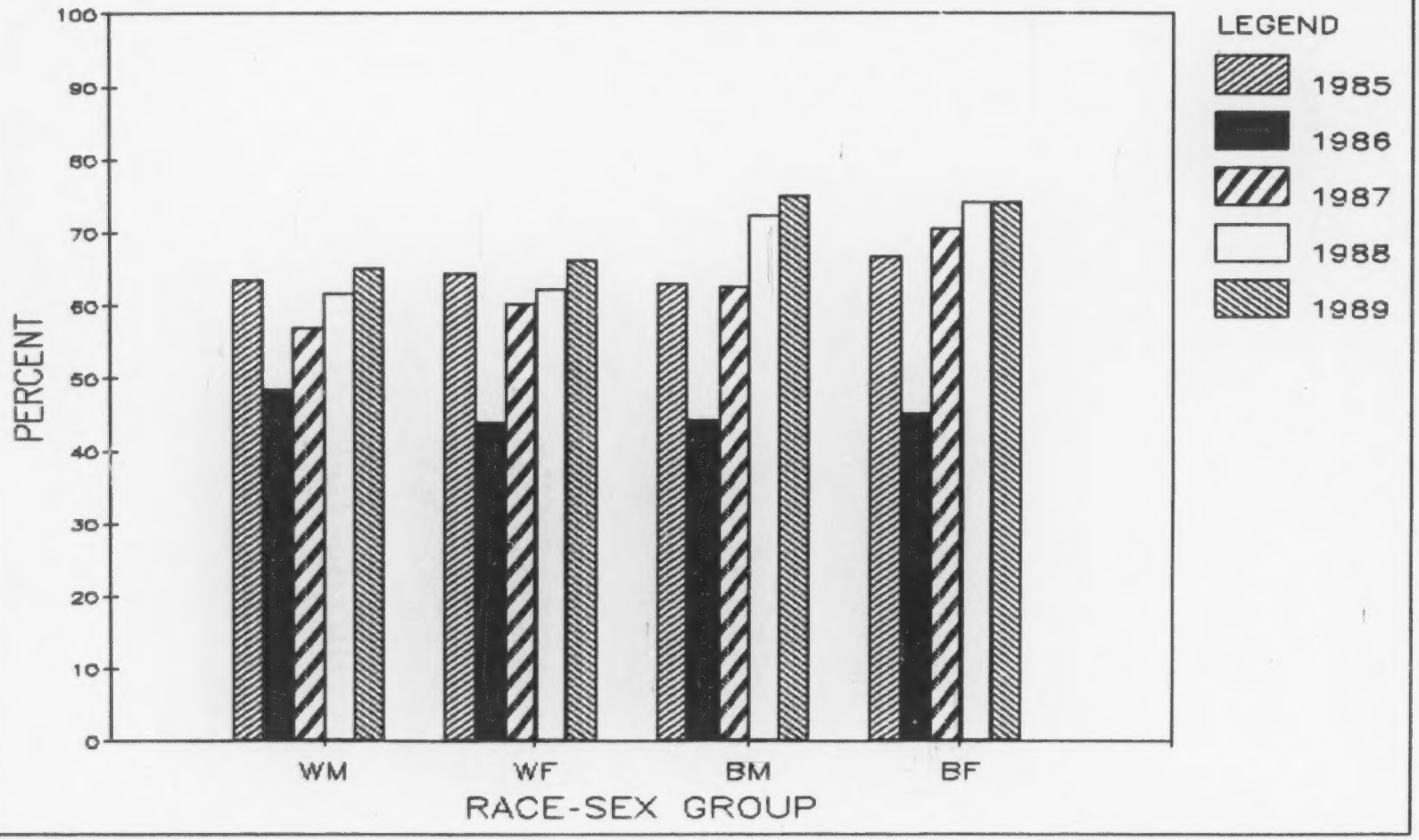


Figure 24
PREVALENCE OF SEDENTARY LIFE-STYLE WITHIN AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1985 - 1989

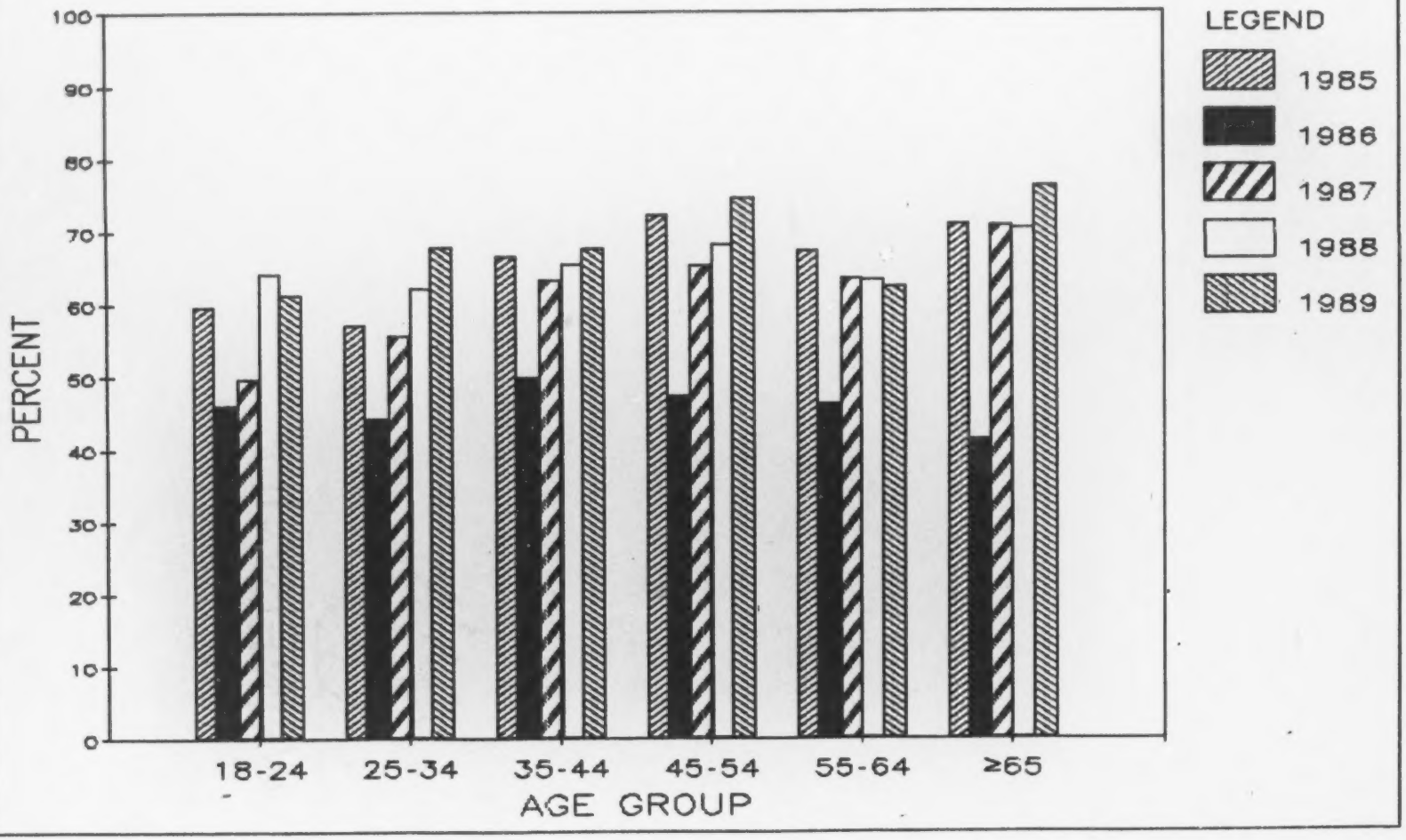


Figure 25
PREVALENCE OF CHRONIC DRINKING WITHIN RACE-SEX GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1989

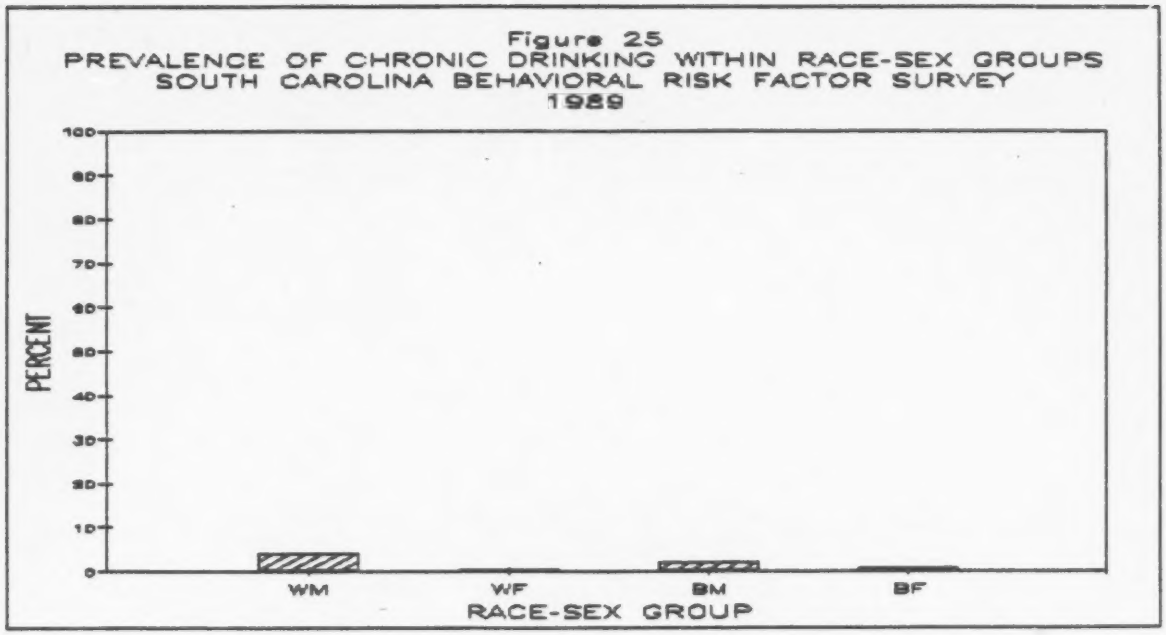


Figure 26
PREVALENCE OF CHRONIC DRINKING WITHIN AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1989

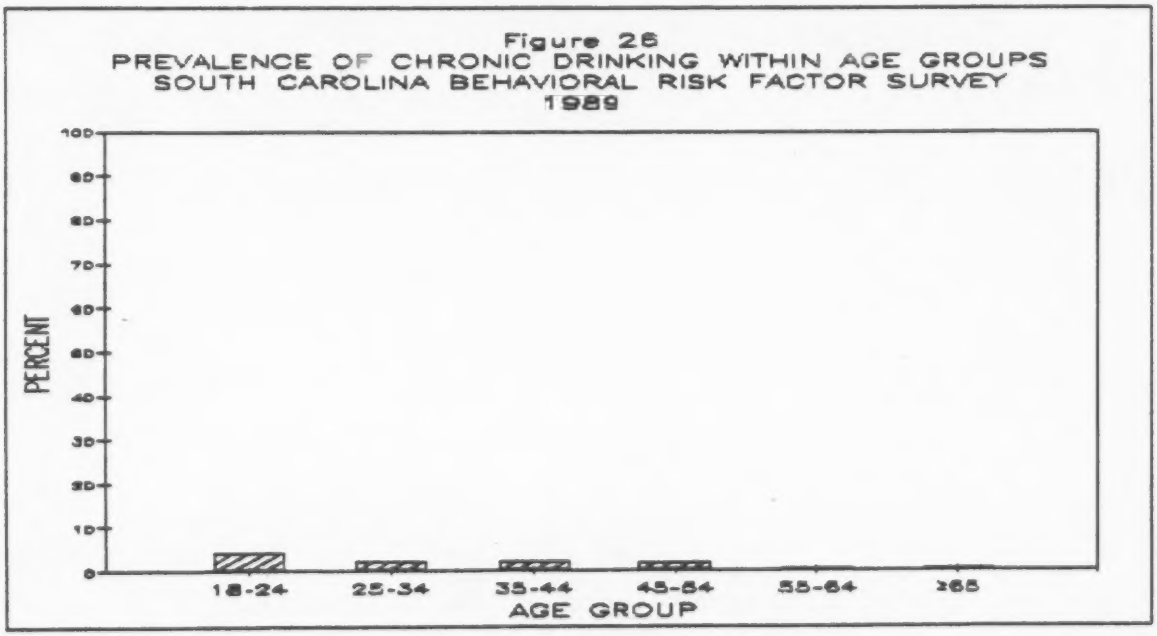


Figure 27
PREVALENCE OF OVERWEIGHT WITHIN RACE-SEX GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1989

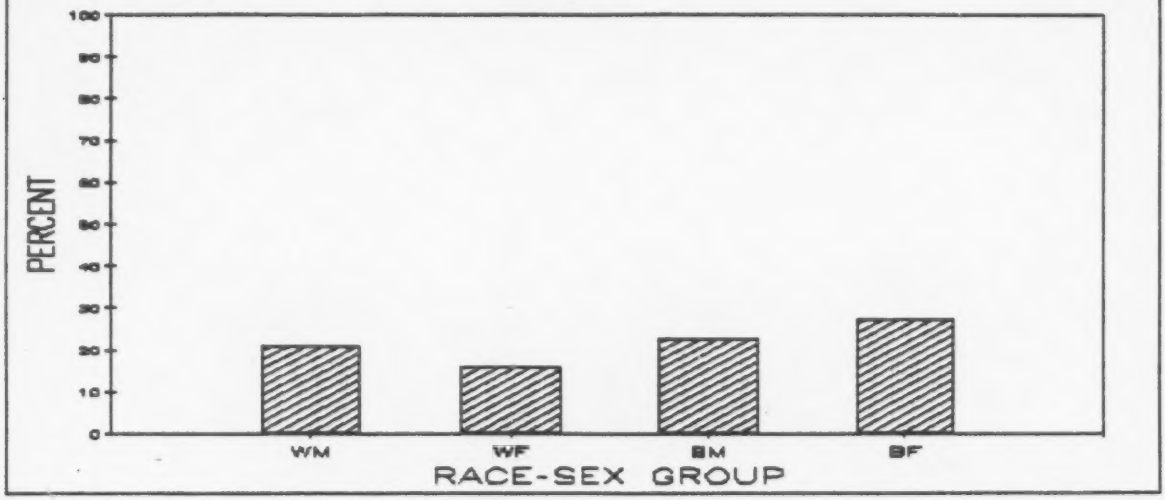


Figure 28
PREVALENCE OF OVERWEIGHT WITHIN AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1989

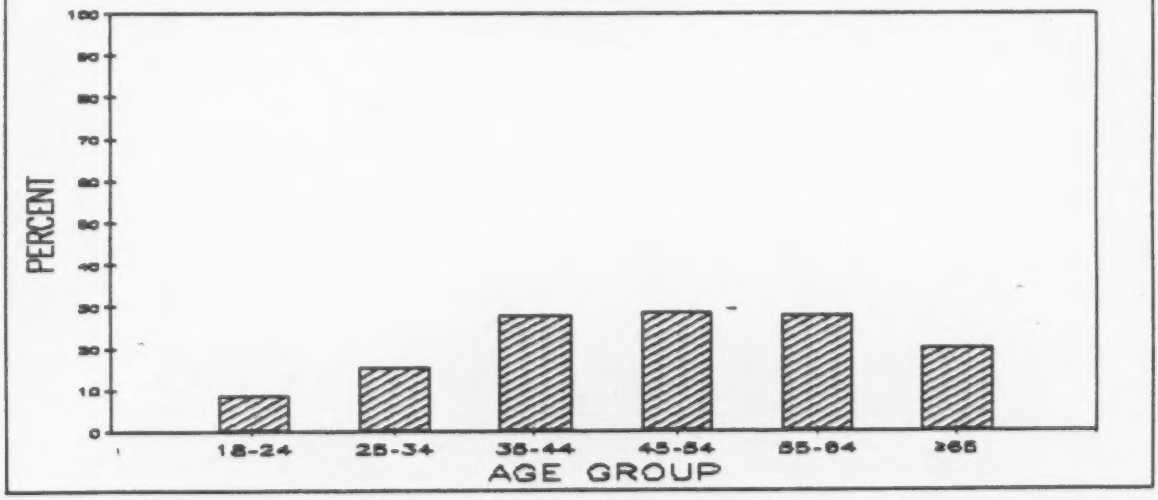


Figure 29
PREVALENCE OF OVERWEIGHT WITHIN RACE-SEX GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1987 - 1989

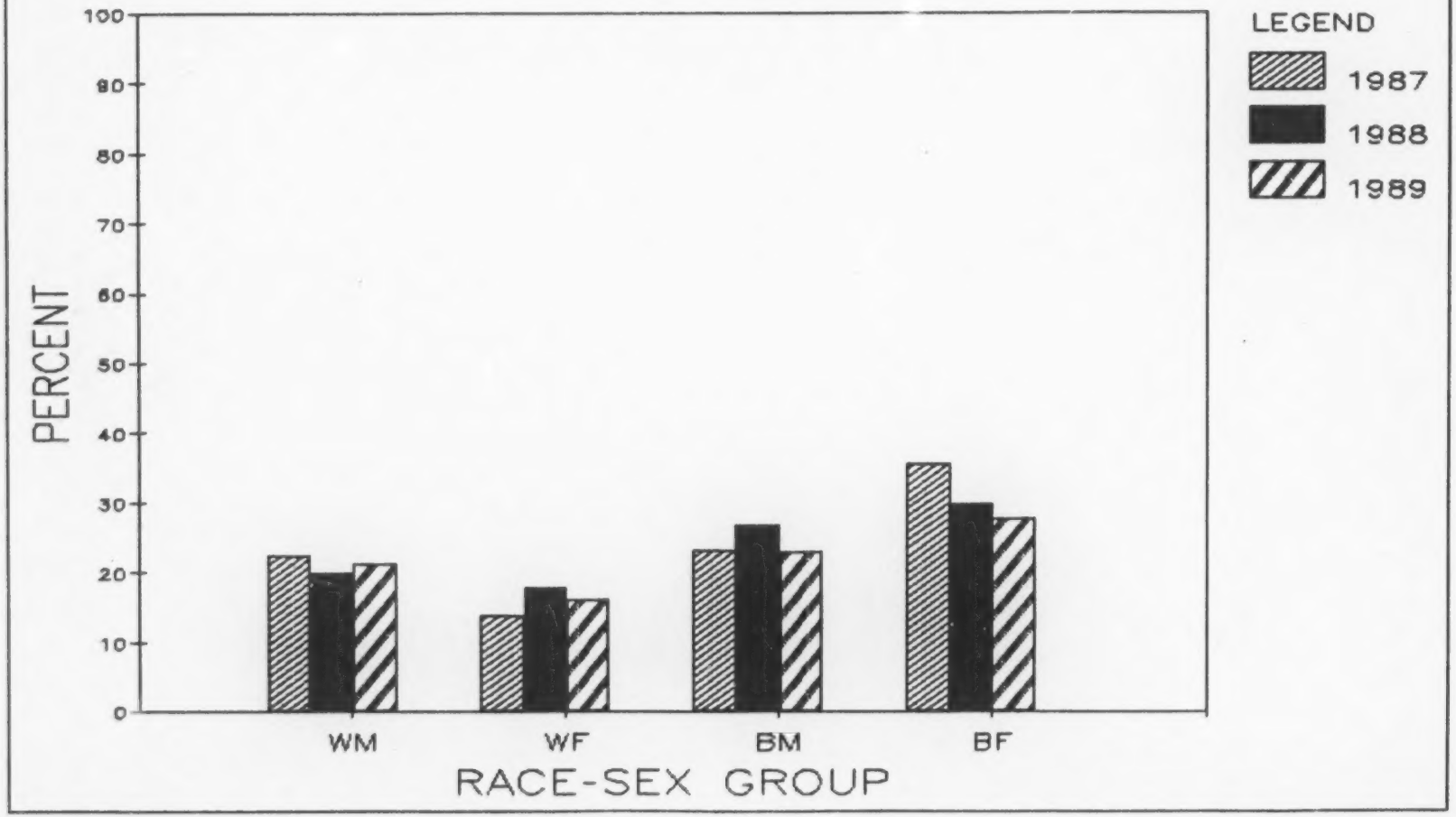


Figure 30
PREVALENCE OF OVERWEIGHT WITHIN AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1987 - 1989

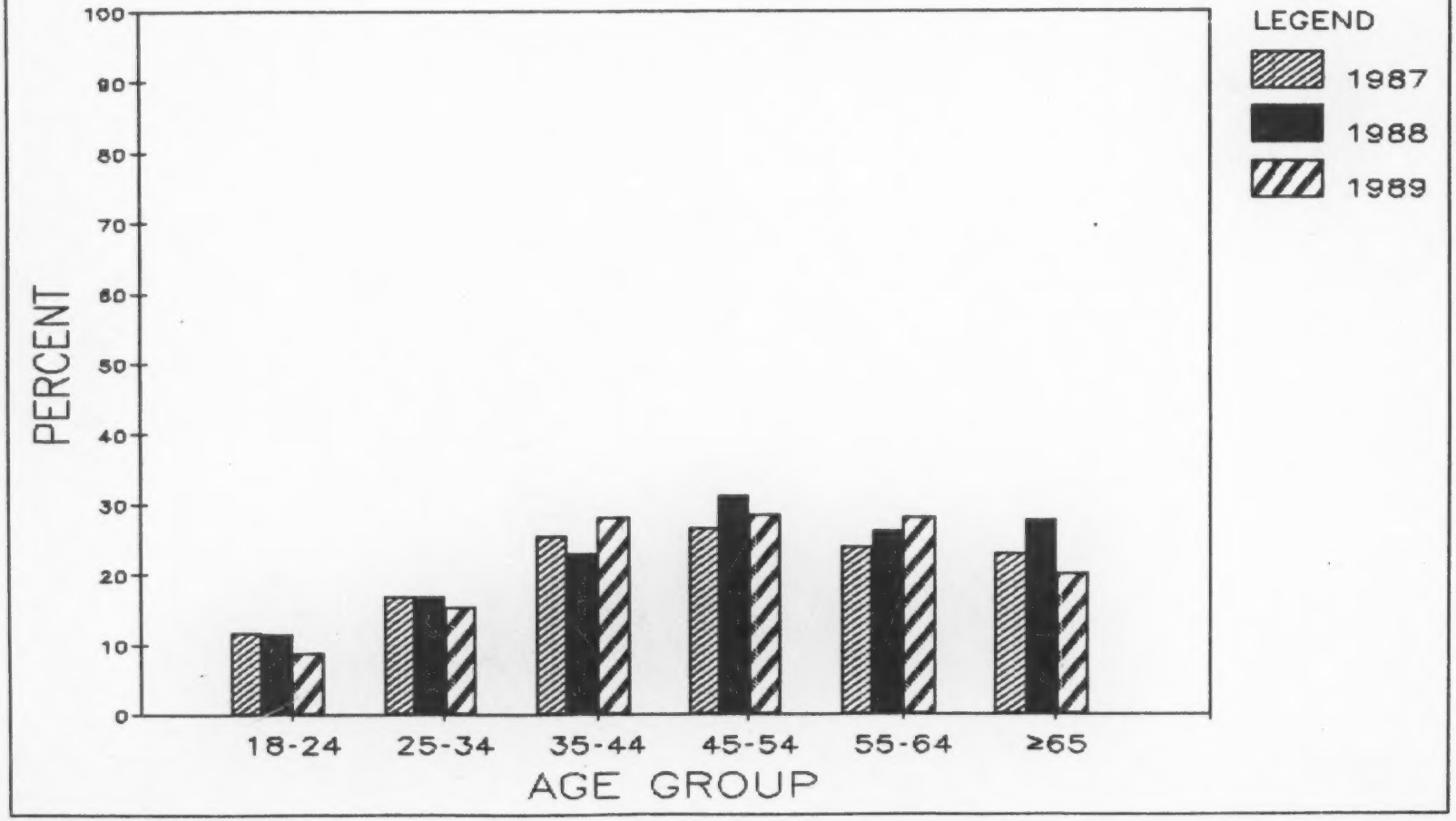


Figure 31
PREVALENCE OF LACK OF CHOLESTEROL SCREENING WITHIN RACE-SEX GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1989

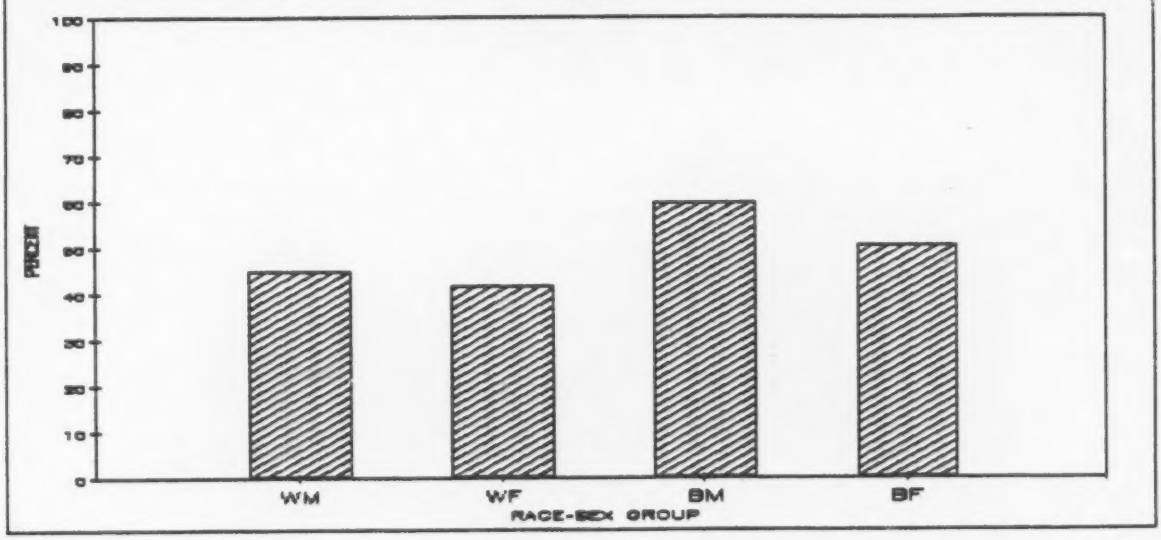


Figure 32
PREVALENCE OF LACK OF CHOLESTEROL SCREENING WITHIN AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1989

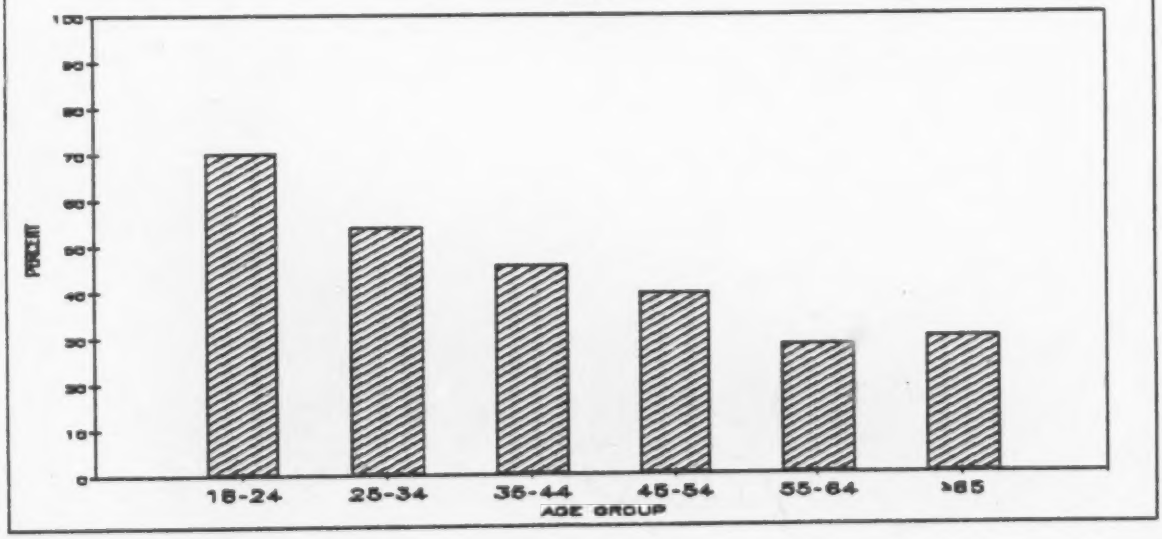


Figure 33
PREVALENCE OF LACK OF CHOLESTEROL SCREENING WITHIN RACE-SEX GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1987 - 1989

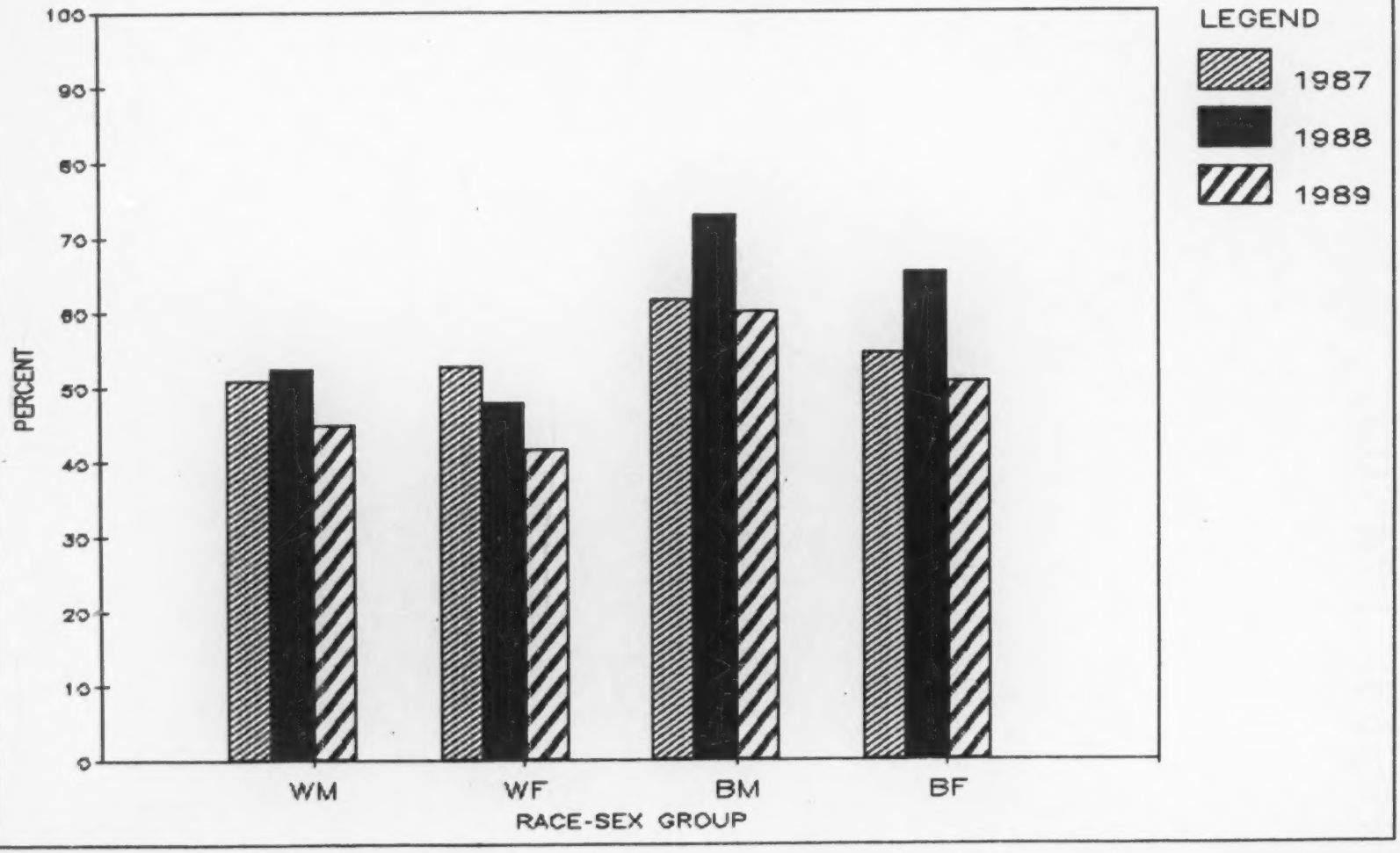


Figure 34
PREVALENCE OF LACK OF CHOLESTEROL SCREENING WITHIN AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1987 - 1989

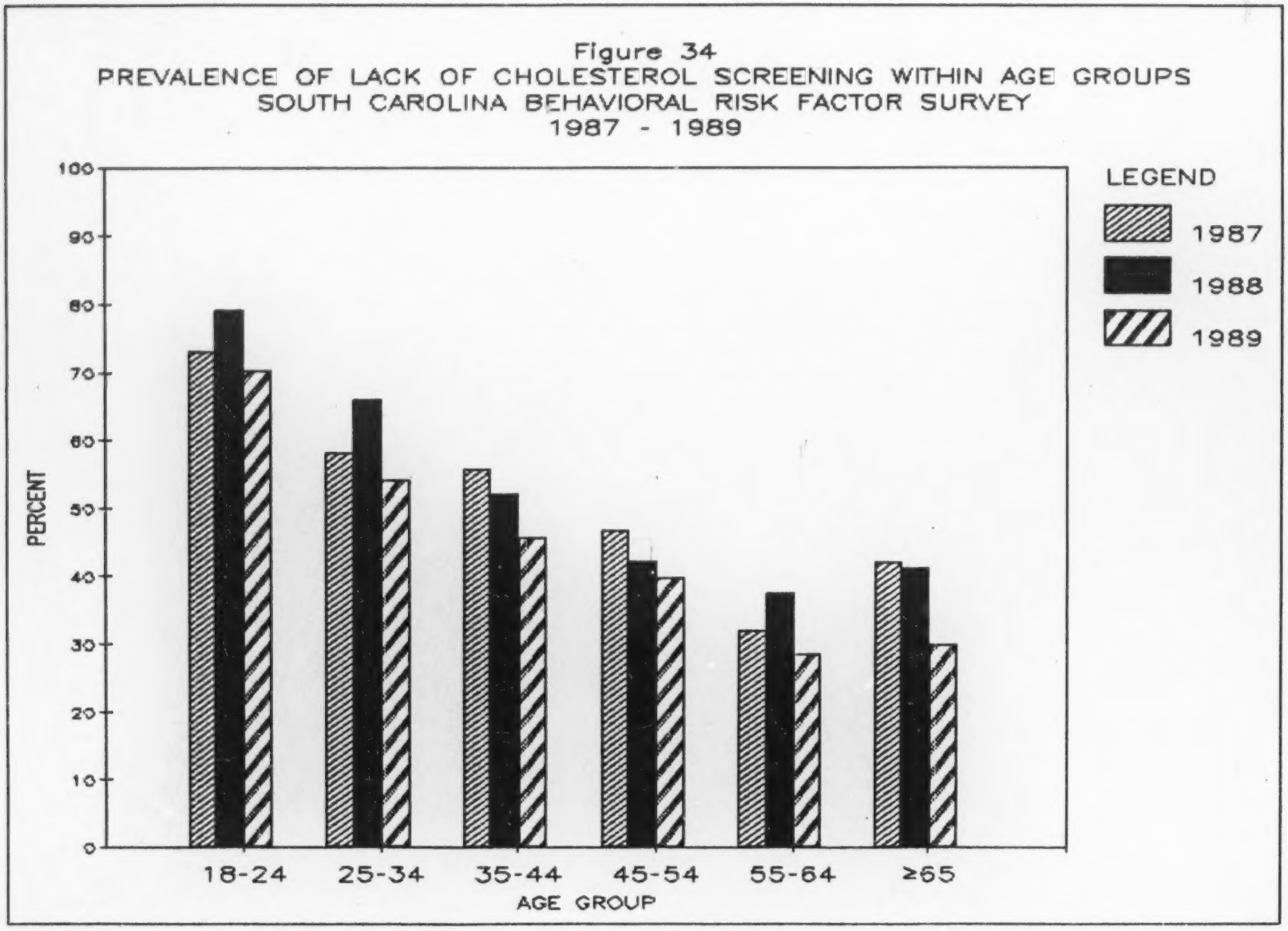


Figure 35
PREVALENCE OF HIGH BLOOD CHOLESTEROL WITHIN RACE-SEX GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1989

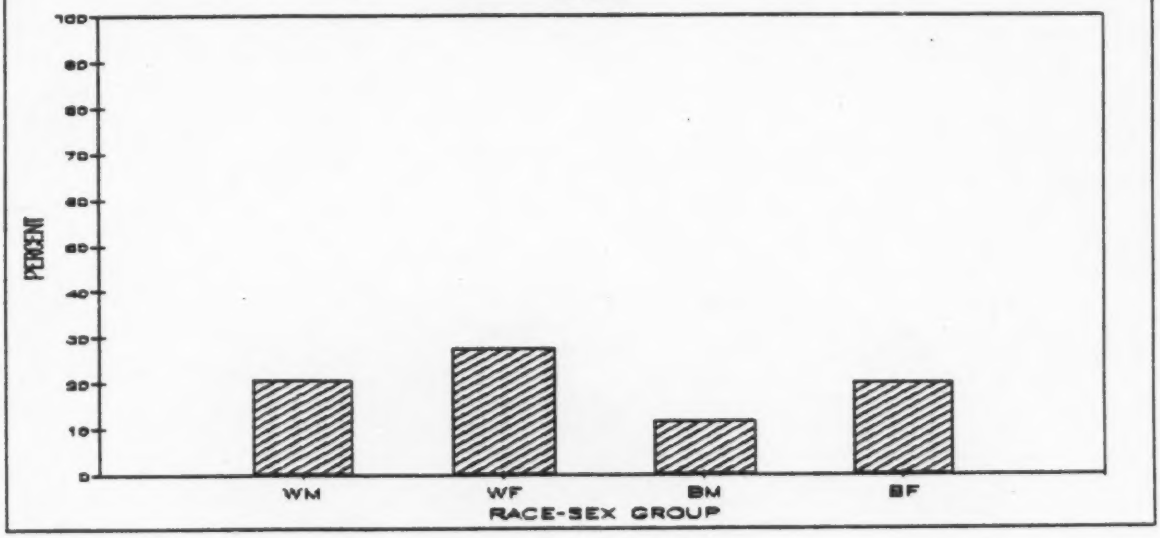


Figure 36
PREVALENCE OF HIGH BLOOD CHOLESTERORL WITHIN AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1989

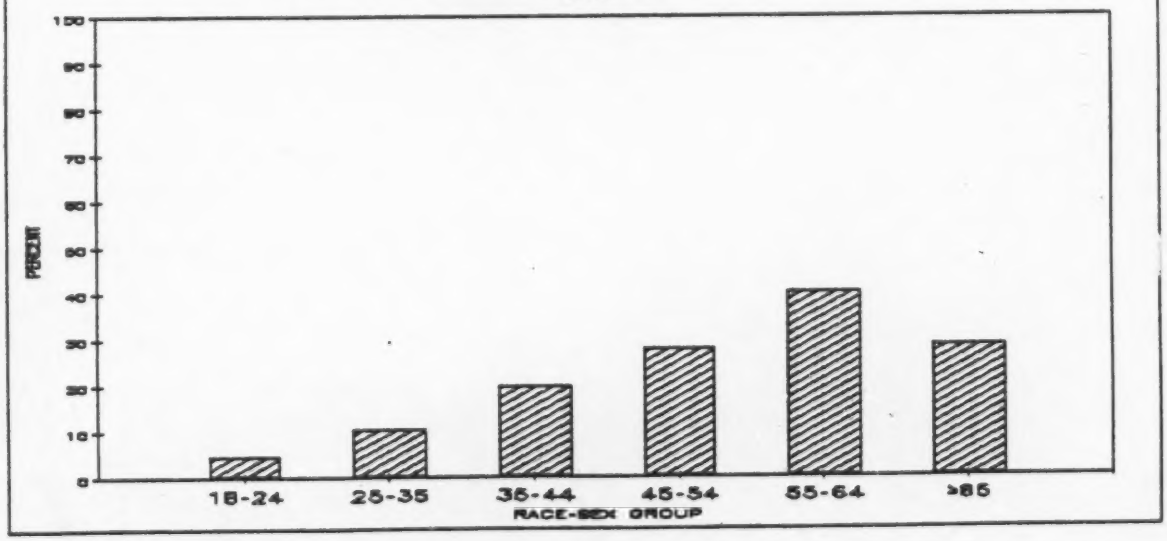


Figure 37
PREVALENCE OF HIGH BLOOD CHOLESTEROL WITHIN RACE-SEX GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1987 - 1989

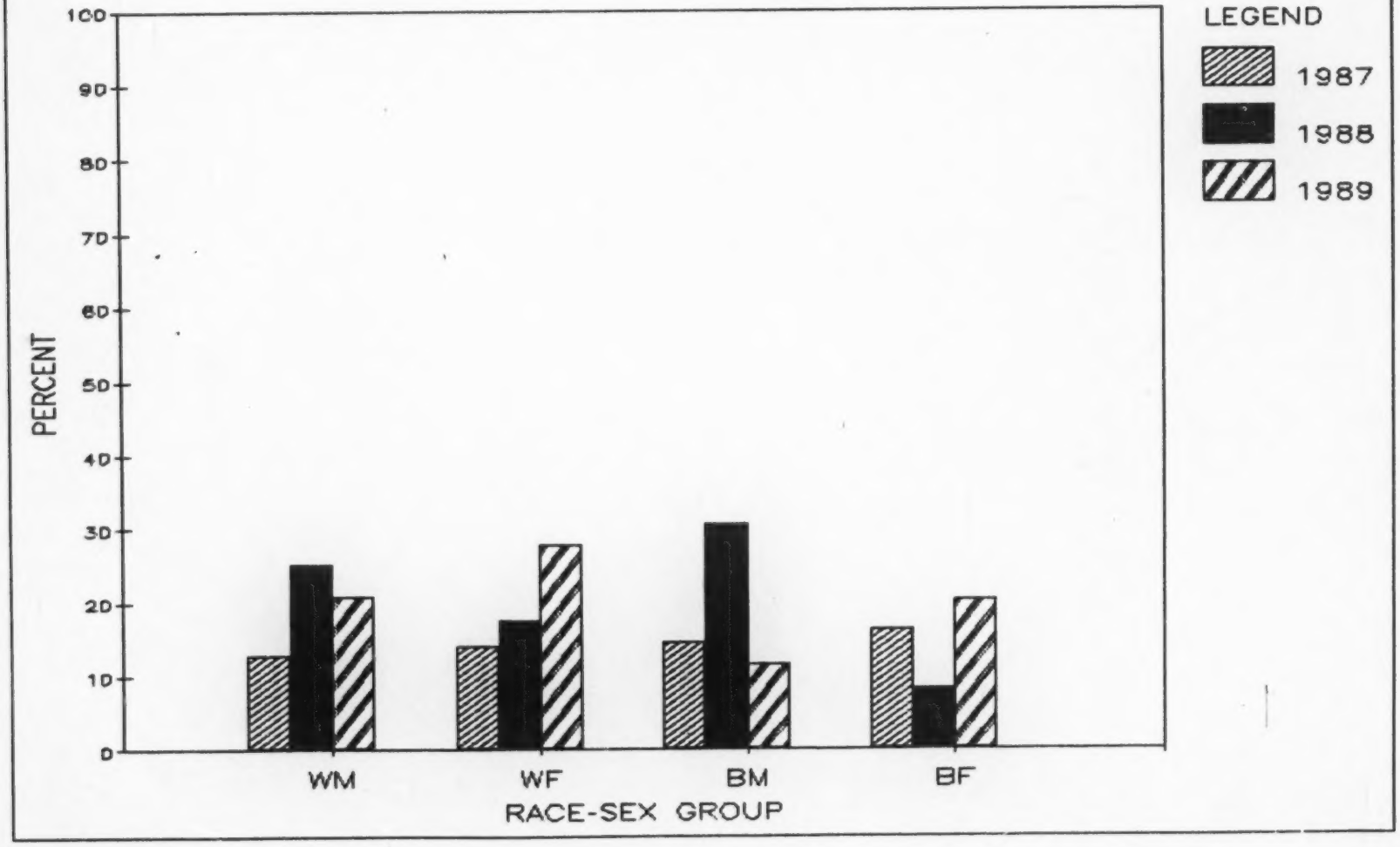
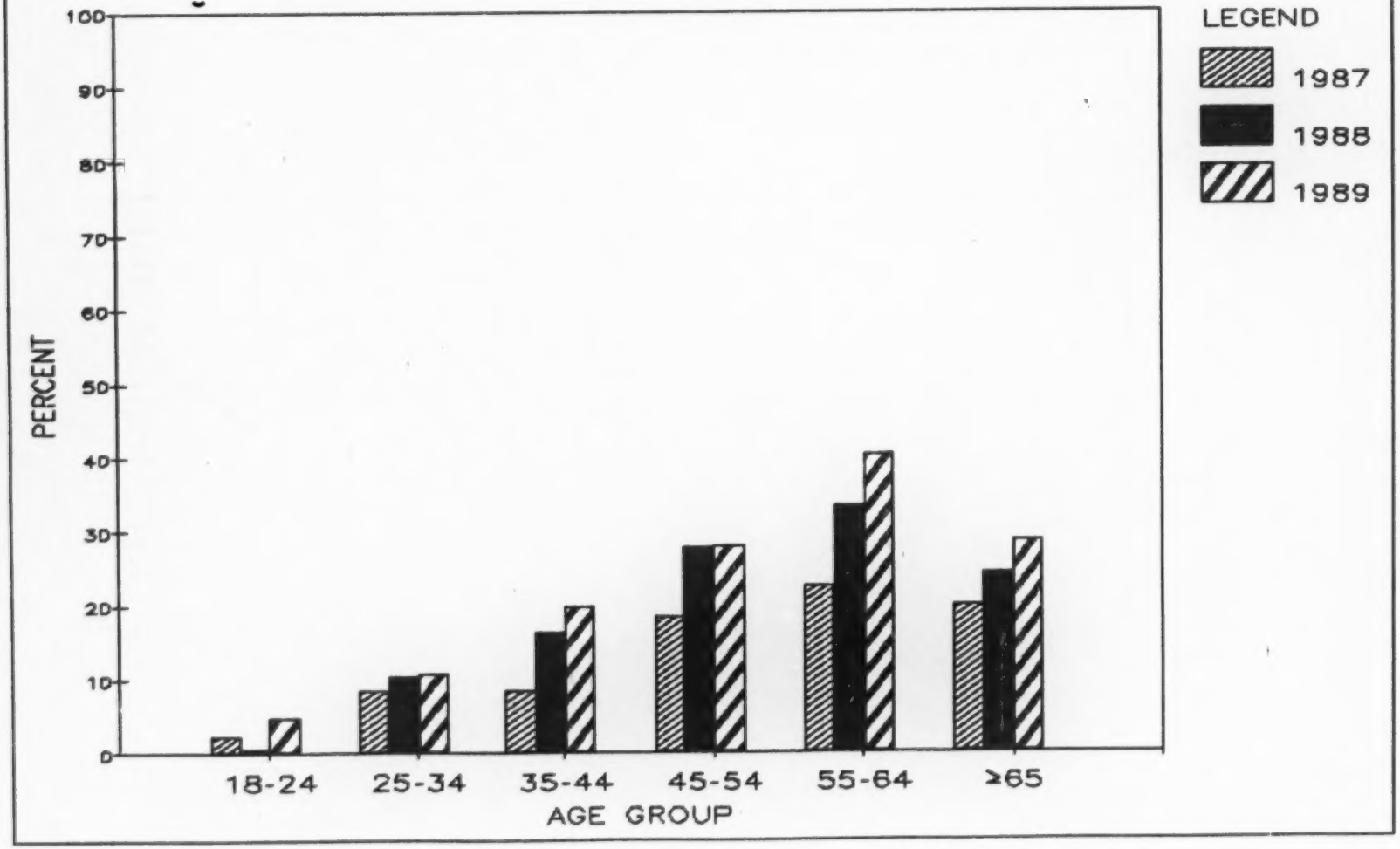


Figure 38
PREVALENCE OF HIGH BLOOD CHOLESTEROL WITHIN AGE GROUPS
SOUTH CAROLINA BEHAVIORAL RISK FACTOR SURVEY
1987 - 1989



APPENDIX B

SURVEY QUESTIONS FOR EIGHT KEY RISK FACTORS

SURVEY QUESTIONS FOR EIGHT KEY RISK FACTORS

Following are the specific survey questions and responses considered in the determination of BRFS respondents at increased risk for preventable illnesses and death for the health risk factors addressed in this report.

Seat Belt Non-Use

How often do you use seat belts when you drive or ride in a car? Would you say always, nearly always, sometimes, seldom, or never? **Sometimes, seldom, or never**

Current Hypertension

Have you ever been told by a doctor, nurse, or other health professional that you have high blood pressure? **Yes**

Have you been told on more than one occasion that your blood pressure was high, or have you been told this only once? **More than once**

Are you currently taking medicine for your high blood pressure? **Yes**

Sedentary Life-Style

The next few questions are about exercise, recreation, or physical activities other than your regular job duties. During the past month, did you participate in any physical activities or exercise such as running, calisthenics, golf, gardening or walking for exercise? **No, or Yes** followed by:

How many times per week or per month did you take part in this activity during the past month? **Any answer less than three times a week**

And when you took part in this activity, for how many minutes or hours did you usually keep at it? **Any answer less than twenty minutes**

Current Smoking

Now I'd like to ask you a few questions about cigarette smoking. Do you smoke cigarettes now? **Yes**

Chronic Drinking

These next few questions are about the use of beer, wine, wine coolers, cocktails, or liquor, such as vodka, gin, rum, or whiskey--all kinds of alcoholic beverages that people drink at meals, special occasions, or when just relaxing. Have you had any beer, wine, wine coolers, cocktails, or liquor during the past month, that is since (GIVE DATE)? **Yes**

A drink is one can or bottle ~~of~~ beer, one glass of wine, one can or bottle of wine cooler, one cocktail, or one shot of liquor. On the days when you drank, about how many drinks did you drink on the average? **Average of sixty or more alcoholic beverages per month**

Overweight

About how much do you weigh without shoes?
About how tall are you without shoes?

Overweight is defined as a Body Mass Index (BMI) equal to or greater than the 85th percentile of the reference population in the second National Health and Nutrition Examination Survey. BMI is calculated as:

$$\frac{\text{weight in kilograms}}{(\text{height in meters})^2}$$

Male respondents were considered overweight if they had a BMI of 27.8 or higher; females were considered overweight if they had a BMI of 27.3 or higher.

Lack of Cholesterol Screening

Have you ever had your blood cholesterol checked? No

High Blood Cholesterol

Have you ever had your blood cholesterol checked? Yes

Have you ever been told by a doctor or other health professional that your blood cholesterol is high? Yes

South Carolina
DHEC
Department of Health and Environmental Control

Center for Health Promotion
April 1991
(803) 737-4120